

Vector Studies

USSR

UDC 576.851.45.095.38:576.895.775].095.18:615.285.7

~~ALEKSEYEV, A. N.~~ BIBIKOVA, V. A., TATARINOVA, S. G., and KHRUSTSELEVSKAYA, N. M., All Union Scientific Research Institute of Disinfection and Sterilization, Ministry of Health USSR, and Central Asian Scientific Research Antiplague Institute

"Effect of the Systemic Poison Fluoroacetamide on the Viability of Infected Fleas and on the Development of the Plague Pathogen in Them"

Moscow, Meditsinskaya Parazitologiya i Parazitarnyye Bolezni, No 5, 1971, pp 571-577

Abstract: Administration of sublethal doses of the systemic organofluorine insecticide fluoroacetamide (a poison with intestinal action against rodent ectoparasites) to the great gerbil flea *Xenopsylla gerbilli minax* and the rat flea *X. cheopis* infected with a highly virulent strain of *Pasteurella pestis* quickly killed the fleas or resulted in elimination of the microorganism from the insects. Fluoroacetamide suppressed the formation of a proventriculus block in the fleas. The mechanism of action of the poison lies in its inhibiting vital functions of both the micro- and macroorganism. By inhibiting the reproduction of the pathogen in the flea intestine, fluoroacetamide is an antagonist of plague bacteria. On the other hand, by

1/2

AM0033: 9

In the second volume of the handbook are examined the physico-chemical bases of the processes and industrial projects for the production of nitric acid and nitric fertilizers. The handbook is designed for technical engineers in the nitric and other branches of chemical industry. Each chapter has a bibliography, in all 294 references

$\frac{2}{2}$

19710039

A.M. ALEXSEYEV

A/10033529

Simulin, N.A.; Mel'nikov, Ye.Ya.; Furman, M.S.; Piskunov, I.B.;
Samarin, E.K.; Alexsejev, A.M.; Tvoritskiy, S.A.; Abramov, Ya.A.
 (editorial board)

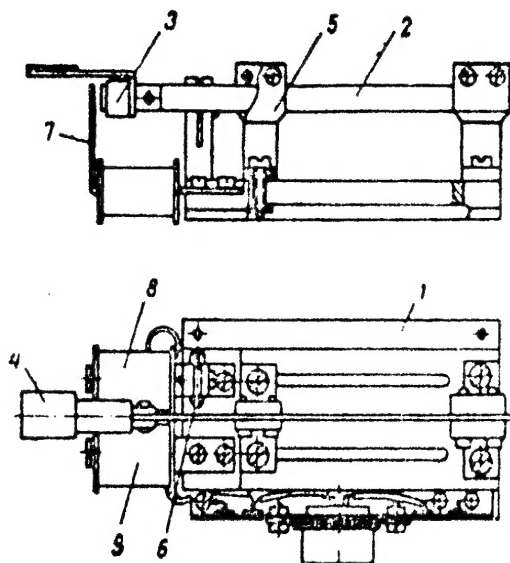
Handbook for the Nitrogen worker. Vol. 2 (Spravochnik azotnika).
 Khimiya. 445 pp. (5.2%)

TABLE OF CONTENTS:

Preface			
Chapter I	The Production of Nitric Acid		
II	The Production of Nitric Fertilizers		
III	Materials and Basic Special Equipment		
IV	Power Supply		
V	Safety Technique		
	Subject Index		

19710038

AA0043457



EB

3/3

19761816

AA0043457

extreme position so that an initial current is allowed to flow in the exciter coil so that an initial current is allowed to flow in the exciter coil due to a constant forward bias applied to the transistor. The amplitude of oscillation is regulated by screw 6. 19.3.66. as 1062735/26-25. A.M. ALEKSEV, L.A FEDOROVICH. (10.9.69.) Bul.14/18.4.69. Class 2lg. Int.Cl. H01h.

2/3

19761815

AA 0043457

Aleksander A.M.
UR 0482

Soviet Inventions Illustrated, Section II Electrical, Derwent, 1/70

241545 VIBRATING LIGHT MODULATOR is made simpler, smaller and stable. The excitation coil 8 is in the collector circuit of a transistor. When it is energised a combined flux in conjunction with permanent magnet 3 is produced which deflects moving armature 2. As it changes its position an emf is induced in both the exciter coil and the feedback coil 9 which is connected in the base of the transistor. An increase of collector current produces a signal in the base which further increases that current. With the armature fully deflected the induced emf drops to zero and the spring action forces the armature to return in the opposite direction; this time the induced emf reverse biases the transistor. This reverse biasing stops when the armature reaches the other

1/3

21

19761814

USSR

SHCHUKIN, V. N., ALEKSEYEV, A. M.

"Optimization of Plans for Development and Placement of Branches of Industry"

Optimizatsiya Planov Razvitiya i Raxmeshcheniya Otrasley Promyshlennosti
[English Version Above], Novosibirsk, 1971, 169 pages (Translated from
Referativnyy Zhurnal, Kibernetika, No 2, 1972, Abstract No 2 V652 K,
unsigned).

Translation: The book will be abstracted article-by-article.

USSR

UDC 577.4

ALEKSEYEV, A. M., KRYUCHKOV, V. N.

"Optimization of the Construction Program in an Area which is Being Newly Built Up"

V sb. Metody i modeli territorial'n. planir. (Methods and Models of Territorial Planning -- collection of works), vyp. 2, Novosibirsk, 1971, pp 161-172 (from RZh-Kibernetika, No 7, Jul 72, Abstract No 7V546)

No abstract

1/1

- 57 -

USSR

Alekseyev, A. M., Volkonsiy, V. A., Shapiro, A. D., *Ekonomika i Mat. Metody*, 1973, Vol 9, No 1, pp 3-18.

the best results as applied to partially integer problems. The results of solution of a number of practical problems are described briefly: 1) optimal development of the mining fund of the southern Kuznets basin, 2) optimal placement of mobile wood cutting units for cutting of the forest in the flooding zone of the Boguchanskaya Hydroelectric Power Plant, 3) optimal development and placement of permanent and temporary repair basis for railroad machine stations, 4) optimization of the plan for creation of a territorial production complex, matched to the plan of development of a construction base. 30 biblio. refs.

USSR

Alekseyev, A. M., Volkonsiy, V. A., Shapiro, A. D., *Ekonomika i Mat. Metody*, 1973, Vol 9, No 1, pp 3-18.

Most frequently, model (1)-(5) is used for planning or production of a group of enterprises or branches, both selection of versions of development of production and for the production program. Recently, formalizations such as (1)-(5) have begun to be applied also to path determination problems.

Calculations using a model make it possible to select the optimal combination of versions. Formation of the file of initial data is usually done manually, sharply limiting the number of versions which can be practically tested. The advantages and disadvantages of multiple-version and "version-less" statements of the problem are discussed. In the opinion of the authors, the multiple-version problem should be given the task of determining interrelationships between objects, while models of individual objects (perhaps of significantly more complex structure) should be used to formulate version in the multiple-version model. The greatest experience in automatic formulation of versions has been accumulated for the case of the linear model -- the tradition here extends back to the Danzig-Wolf decomposition algorithm.

As concerns the solution of the multiple-version problem itself, particular attention is given to the use of estimates in the problem, including integer variables. The methods of utilization of estimates described yield

USSR

ALEKSEYEV, A. M., VOLKONSIY, V. A., SHAPIRO, A. D.

"Methods of Optimization of Plans by Automatic Formation of Plan Versions and Their Applications"

Ekonomika i Mat. Metody [Economics and Mathematical Methods], 1973, Vol 9, No 1, pp 3-18 (Translated from *Referativnyy Zhurnal Kibernetika*, No 6, 1973, Abstract No 6V539, by Yu. Finkel'shteyn).

Translation: Versions of a problem of the following form are studied:

$$\sum_{k=1}^K \sum_{j=1}^{J_k} c_j^k x_j^k = \min, \quad (1)$$

$$\sum_{k=1}^K \sum_{j=1}^{J_k} a_{ij}^k x_j^k \leq b_i, \quad i = 1, \dots, I, \quad (2)$$

$$\sum_{j=1}^{J_k} x_j^k = 1, \quad k = 1, \dots, K, \quad (3)$$

$$x_j^k \geq 0, \quad j = 1, \dots, J_k, \quad k = 1, \dots, K, \quad (4)$$

$$x_j^k = 0 \text{ or } 1, \quad j = 1, \dots, J_k, \quad k = 1, \dots, K, \quad (K_1 \leq K). \quad (5)$$

Acc. Nr: **AP0038056**

Ref. Code: UR 0056

PRIMARY SOURCE: Zhurnal Eksperimental'noy i Teoreticheskoy
Fiziki, 1970, Vol 58, Nr 1, pp 354-359

SELF-INDUCED TRANSPARENCY OF A GAS
IN A MAGNETIC FIELD

A. I. Alekseyev, A. S. Chernov

Self-induced transparency of a gas in a magnetic field during traversal by a linearly polarized light pulse is investigated. It is shown that the external magnetic field considerably decreases the number of resonance atomic transitions for which self-induced transparency of the medium is possible. An analytic solution for a linearly polarized light pulse propagating without change of its shape or loss of energy is found in the case of atomic transitions involving a change of the total momentum 1 ± 0 , $1/2 \pm 1/2$ and $1 \rightarrow 1$. In the presence of self-induced transparency the direction of rotation of light pulse polarization is opposite that of Faraday rotation in a monochromatic wave.

//

REEL/FRAME
19731100

21

08

2/2 033 UNCLASSIFIED PROCESSING DATE--27NOV70
CIRC ACCESSION NO--AP0125810
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PASSAGE OF A WEAK
MONOCHROMATIC WAVE THROUGH A GASEOUS RESONANCE MEDIUM LOCATED IN A
STRONG MONOCHROMATIC FIELD OF A CLOSE FREQUENCY IS CONSIDERED. THE
INVESTIGATION IS CARRIED OUT BY TAKING INTO ACCOUNT DEGENERACY OF THE
LEVELS AND THE TENSOR NATURE OF THE COLLISION TERM. AMPLIFICATION OF
THE WEAK WAVE DEPENDING ON THE POLARIZATION DIRECTION OF THE WEAK AND
STRONG WAVES IS DETERMINED. IT IS FOUND THAT A VERY DISTINCT STRUCTURE
APPEARS ON THE AMPLIFICATION CURVE OF THE WEAK WAVE; THE STRUCTURE
DEPENDS ON RELAXATION PROCESSES IN THE MEDIUM AND MANIFESTS ITSELF
DIFFERENTLY FOR PARALLEL AND PERPENDICULAR WAVE POLARIZATIONS. THE
POSSIBILITY IS DISCUSSED OF EMPLOYING THE DETECTED POLARIZATION EFFECTS
FOR INVESTIGATION OF COLLISION IN A GAS AND DETERMINATION OF THE LEVEL
WIDTHS OF THE GAS MOLECULES. FACILITY: MOSKOVSKIY
INZHENERNO-FIZICHESKIY INSTITUT.

UNCLASSIFIED

1/2 033 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--POLARIZATION PHENOMENA IN NONLINEAR SPECTROSCOPY -U-
AUTHOR--ALEKSEYEV, A.I. A
COUNTRY OF INFO--USSR
SOURCE--ZHURNAL EKSPERIMENTAL'NOY I TEORETICHESKOY FIZIKI, 1970, VOL 58,
NR 6, PP 2064-2074
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--MONOCHROMATIC RADIATION, GAS STATE, WAVE MECHANICS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--2000/2232 STEP NO--UR/0056/70/058/006/2064/2074
CIRC ACCESSION NO--00120810
UNCLASSIFIED

USSR

ALEKSEYEV, A. I., et al, Teoriya i primeneniye psevdosluchaynykh signalov, "Nauka", 1969, 367 pp, ill., 1 r 29 k

for using pseudo-random signals in ISZ [artificial earth satellite] communications systems, in laser systems, and for measuring distance and velocity. L.S.

2/2

- 29 -

USSR

UDC 621.391.82

ALEKSEYEV, A. I., SHEREMET'YEV, A. G., TUZOV, G. I., GLAZOV, B. I.

"Theory and Application of Pseudo-Random Signals"

Moscow, Teoriya i primeneniye psevdosluchaynykh signalov (cf. English above), "Nauka", 1969, 367 pp, ill., 1 r 29 k (from REZh-Radiotekhnika, No 4, 1970, Abstract No 4A90K)

Translation: Literature is generalized on the theory and application of pseudo-random (noise) signals formed on the basis of sequences of maximal duration or M-sequences. Despite the regular structure they bear all of the characteristics of random sequences. The auto correlation function of pseudo-random signals in the form of a double sequence is similar to the autocorrelation function for white noise, i.e. δ - function. The authors study the requirements imposed on signals in discrete information transmission systems and in systems for measuring motion parameters by using information theory and the theory of statistical solutions. Basic problems of the theory of generation and optimal processing of pseudo-random signals were studied along with their interference resistance. A description is given of real possibilities

1/2

USSR

IVOCHKIN, I. I., et al, Svarochnoye proizvodstvo, No 2, Feb 72, pp 15-17

optimal technological parameters of welding with the use of powder filler metal including the root gap, welding rate, electrode wire feed, granulation, and the amount of powder filler metal. The weld quality is rated on the basis of fusion depth, shape factor, weld continuity, and the heat efficiency of the welding. Proposed is a new automatic direct submerged (two-sided) welding technology with metal powder as the filler metal for low carbon and low-alloy steels up to 50 mm thick without bevelling. The new process is said to increase the welding efficiency two to three fold (as compared to conventional welding), decrease the cost per meter of weld by about 80%, and produce an economic effect within the 10-50 mm thickness range averaging at 330 rubles per ton. (3 illust., 3 tables, 4 biblio. ref.)

2/2

Welding

USSR

UDC 621.791.75.045-52+621.791.046

IVOCHKIN, I.I., ALEKSEYEV, A.I. (Candidates of Techn. Sciences) / VNIImontazhspetsstroy /, LEBEDEV, B.F. (Doctor of Techn. Sciences) / Institute of Electric Welding imeni Ye.O. Paton /, STEKLOV, O.I. (Cand. of Techn. Sciences) / Moscow Higher Technical School imeni N.E. Bauman /, IVOCHKIN, I.M. (Engineer) / Sokolovskiy Plant of Erecting Cranes / and MOTSOKHIN, S.B. (Engineer) / Trust No 7 /

"Automatic Submerged Arc Welding Using Powder Filler Metal"

Moscow, Svarochnoye proizvodstvo, No 2, Feb 72, pp 15-17

Abstract: The use of powder filler metal in submerged arc welding permits joining plate structures up to 50 mm thick without beveling in two passes at a lower per-unit consumption of heat energy. Described here is a new analytical technique for determining the

ALEKSEYEV, A.I.

MEDICINE

FACTORS INVOLVED IN CHOICE OF THE MEDICAL PROFESSION BY MEDICAL INSTITUTE STUDENTS

Article by B.N. Jalin, A.I. Alekseyev, Staff of Central Research Institute for the Study of the Medical Profession, Moscow, No. 10, 1971, pp. 1-10, 11-12, 13-14, 15-16, 17-18, 19-20, 21-22, 23-24, 25-26, 27-28, 29-30, 31-32, 33-34, 35-36, 37-38, 39-40, 41-42, 43-44, 45-46, 47-48, 49-50, 51-52, 53-54, 55-56, 57-58, 59-60, 61-62, 63-64, 65-66, 67-68, 69-70, 71-72, 73-74, 75-76, 77-78, 79-80, 81-82, 83-84, 85-86, 87-88, 89-90, 91-92, 93-94, 95-96, 97-98, 99-100, 101-102, 103-104, 105-106, 107-108, 109-110, 111-112, 113-114, 115-116, 117-118, 119-120, 121-122, 123-124, 125-126, 127-128, 129-130, 131-132, 133-134, 135-136, 137-138, 139-140, 141-142, 143-144, 145-146, 147-148, 149-150, 151-152, 153-154, 155-156, 157-158, 159-160, 161-162, 163-164, 165-166, 167-168, 169-170, 171-172, 173-174, 175-176, 177-178, 179-180, 181-182, 183-184, 185-186, 187-188, 189-190, 191-192, 193-194, 195-196, 197-198, 199-200, 201-202, 203-204, 205-206, 207-208, 209-210, 211-212, 213-214, 215-216, 217-218, 219-220, 221-222, 223-224, 225-226, 227-228, 229-230, 231-232, 233-234, 235-236, 237-238, 239-240, 241-242, 243-244, 245-246, 247-248, 249-250, 251-252, 253-254, 255-256, 257-258, 259-260, 261-262, 263-264, 265-266, 267-268, 269-270, 271-272, 273-274, 275-276, 277-278, 279-280, 281-282, 283-284, 285-286, 287-288, 289-290, 291-292, 293-294, 295-296, 297-298, 299-300, 301-302, 303-304, 305-306, 307-308, 309-310, 311-312, 313-314, 315-316, 317-318, 319-320, 321-322, 323-324, 325-326, 327-328, 329-330, 331-332, 333-334, 335-336, 337-338, 339-340, 341-342, 343-344, 345-346, 347-348, 349-350, 351-352, 353-354, 355-356, 357-358, 359-360, 361-362, 363-364, 365-366, 367-368, 369-370, 371-372, 373-374, 375-376, 377-378, 379-380, 381-382, 383-384, 385-386, 387-388, 389-390, 391-392, 393-394, 395-396, 397-398, 399-400, 401-402, 403-404, 405-406, 407-408, 409-410, 411-412, 413-414, 415-416, 417-418, 419-420, 421-422, 423-424, 425-426, 427-428, 429-430, 431-432, 433-434, 435-436, 437-438, 439-440, 441-442, 443-444, 445-446, 447-448, 449-450, 451-452, 453-454, 455-456, 457-458, 459-460, 461-462, 463-464, 465-466, 467-468, 469-470, 471-472, 473-474, 475-476, 477-478, 479-480, 481-482, 483-484, 485-486, 487-488, 489-490, 491-492, 493-494, 495-496, 497-498, 499-500, 501-502, 503-504, 505-506, 507-508, 509-510, 511-512, 513-514, 515-516, 517-518, 519-520, 521-522, 523-524, 525-526, 527-528, 529-530, 531-532, 533-534, 535-536, 537-538, 539-540, 541-542, 543-544, 545-546, 547-548, 549-550, 551-552, 553-554, 555-556, 557-558, 559-560, 561-562, 563-564, 565-566, 567-568, 569-570, 571-572, 573-574, 575-576, 577-578, 579-580, 581-582, 583-584, 585-586, 587-588, 589-590, 591-592, 593-594, 595-596, 597-598, 599-600, 601-602, 603-604, 605-606, 607-608, 609-610, 611-612, 613-614, 615-616, 617-618, 619-620, 621-622, 623-624, 625-626, 627-628, 629-630, 631-632, 633-634, 635-636, 637-638, 639-640, 641-642, 643-644, 645-646, 647-648, 649-650, 651-652, 653-654, 655-656, 657-658, 659-660, 661-662, 663-664, 665-666, 667-668, 669-670, 671-672, 673-674, 675-676, 677-678, 679-680, 681-682, 683-684, 685-686, 687-688, 689-690, 691-692, 693-694, 695-696, 697-698, 699-700, 701-702, 703-704, 705-706, 707-708, 709-710, 711-712, 713-714, 715-716, 717-718, 719-720, 721-722, 723-724, 725-726, 727-728, 729-730, 731-732, 733-734, 735-736, 737-738, 739-740, 741-742, 743-744, 745-746, 747-748, 749-750, 751-752, 753-754, 755-756, 757-758, 759-760, 761-762, 763-764, 765-766, 767-768, 769-770, 771-772, 773-774, 775-776, 777-778, 779-780, 781-782, 783-784, 785-786, 787-788, 789-790, 791-792, 793-794, 795-796, 797-798, 799-800, 801-802, 803-804, 805-806, 807-808, 809-810, 811-812, 813-814, 815-816, 817-818, 819-820, 821-822, 823-824, 825-826, 827-828, 829-830, 831-832, 833-834, 835-836, 837-838, 839-840, 841-842, 843-844, 845-846, 847-848, 849-850, 851-852, 853-854, 855-856, 857-858, 859-860, 861-862, 863-864, 865-866, 867-868, 869-870, 871-872, 873-874, 875-876, 877-878, 879-880, 881-882, 883-884, 885-886, 887-888, 889-890, 891-892, 893-894, 895-896, 897-898, 899-900, 901-902, 903-904, 905-906, 907-908, 909-910, 911-912, 913-914, 915-916, 917-918, 919-920, 921-922, 923-924, 925-926, 927-928, 929-930, 931-932, 933-934, 935-936, 937-938, 939-940, 941-942, 943-944, 945-946, 947-948, 949-950, 951-952, 953-954, 955-956, 957-958, 959-960, 961-962, 963-964, 965-966, 967-968, 969-970, 971-972, 973-974, 975-976, 977-978, 979-980, 981-982, 983-984, 985-986, 987-988, 989-990, 991-992, 993-994, 995-996, 997-998, 999-1000, 1001-1002, 1003-1004, 1005-1006, 1007-1008, 1009-1010, 1011-1012, 1013-1014, 1015-1016, 1017-1018, 1019-1020, 1021-1022, 1023-1024, 1025-1026, 1027-1028, 1029-1030, 1031-1032, 1033-1034, 1035-1036, 1037-1038, 1039-1040, 1041-1042, 1043-1044, 1045-1046, 1047-1048, 1049-1050, 1051-1052, 1053-1054, 1055-1056, 1057-1058, 1059-1060, 1061-1062, 1063-1064, 1065-1066, 1067-1068, 1069-1070, 1071-1072, 1073-1074, 1075-1076, 1077-1078, 1079-1080, 1081-1082, 1083-1084, 1085-1086, 1087-1088, 1089-1090, 1091-1092, 1093-1094, 1095-1096, 1097-1098, 1099-1100, 1101-1102, 1103-1104, 1105-1106, 1107-1108, 1109-1110, 1111-1112, 1113-1114, 1115-1116, 1117-1118, 1119-1120, 1121-1122, 1123-1124, 1125-1126, 1127-1128, 1129-1130, 1131-1132, 1133-1134, 1135-1136, 1137-1138, 1139-1140, 1141-1142, 1143-1144, 1145-1146, 1147-1148, 1149-1150, 1151-1152, 1153-1154, 1155-1156, 1157-1158, 1159-1160, 1161-1162, 1163-1164, 1165-1166, 1167-1168, 1169-1170, 1171-1172, 1173-1174, 1175-1176, 1177-1178, 1179-1180, 1181-1182, 1183-1184, 1185-1186, 1187-1188, 1189-1190, 1191-1192, 1193-1194, 1195-1196, 1197-1198, 1199-1200, 1201-1202, 1203-1204, 1205-1206, 1207-1208, 1209-1210, 1211-1212, 1213-1214, 1215-1216, 1217-1218, 1219-1220, 1221-1222, 1223-1224, 1225-1226, 1227-1228, 1229-1230, 1231-1232, 1233-1234, 1235-1236, 1237-1238, 1239-1240, 1241-1242, 1243-1244, 1245-1246, 1247-1248, 1249-1250, 1251-1252, 1253-1254, 1255-1256, 1257-1258, 1259-1260, 1261-1262, 1263-1264, 1265-1266, 1267-1268, 1269-1270, 1271-1272, 1273-1274, 1275-1276, 1277-1278, 1279-1280, 1281-1282, 1283-1284, 1285-1286, 1287-1288, 1289-1290, 1291-1292, 1293-1294, 1295-1296, 1297-1298, 1299-1300, 1301-1302, 1303-1304, 1305-1306, 1307-1308, 1309-1310, 1311-1312, 1313-1314, 1315-1316, 1317-1318, 1319-1320, 1321-1322, 1323-1324, 1325-1326, 1327-1328, 1329-1330, 1331-1332, 1333-1334, 1335-1336, 1337-1338, 1339-1340, 1341-1342, 1343-1344, 1345-1346, 1347-1348, 1349-1350, 1351-1352, 1353-1354, 1355-1356, 1357-1358, 1359-1360, 1361-1362, 1363-1364, 1365-1366, 1367-1368, 1369-1370, 1371-1372, 1373-1374, 1375-1376, 1377-1378, 1379-1380, 1381-1382, 1383-1384, 1385-1386, 1387-1388, 1389-1390, 1391-1392, 1393-1394, 1395-1396, 1397-1398, 1399-1400, 1401-1402, 1403-1404, 1405-1406, 1407-1408, 1409-1410, 1411-1412, 1413-1414, 1415-1416, 1417-1418, 1419-1420, 1421-1422, 1423-1424, 1425-1426, 1427-1428, 1429-1430, 1431-1432, 1433-1434, 1435-1436, 1437-1438, 1439-1440, 1441-1442, 1443-1444, 1445-1446, 1447-1448, 1449-1450, 1451-1452, 1453-1454, 1455-1456, 1457-1458, 1459-1460, 1461-1462, 1463-1464, 1465-1466, 1467-1468, 1469-1470, 1471-1472, 1473-1474, 1475-1476, 1477-1478, 1479-1480, 1481-1482, 1483-1484, 1485-1486, 1487-1488, 1489-1490, 1491-1492, 1493-1494, 1495-1496, 1497-1498, 1499-1500, 1501-1502, 1503-1504, 1505-1506, 1507-1508, 1509-1510, 1511-1512, 1513-1514, 1515-1516, 1517-1518, 1519-1520, 1521-1522, 1523-1524, 1525-1526, 1527-1528, 1529-1530, 1531-1532, 1533-1534, 1535-1536, 1537-1538, 1539-1540, 1541-1542, 1543-1544, 1545-1546, 1547-1548, 1549-1550, 1551-1552, 1553-1554, 1555-1556, 1557-1558, 1559-1560, 1561-1562, 1563-1564, 1565-1566, 1567-1568, 1569-1570, 1571-1572, 1573-1574, 1575-1576, 1577-1578, 1579-1580, 1581-1582, 1583-1584, 1585-1586, 1587-1588, 1589-1590, 1591-1592, 1593-1594, 1595-1596, 1597-1598, 1599-1600, 1601-1602, 1603-1604, 1605-1606, 1607-1608, 1609-1610, 1611-1612, 1613-1614, 1615-1616, 1617-1618, 1619-1620, 1621-1622, 1623-1624, 1625-1626, 1627-1628, 1629-1630, 1631-1632, 1633-1634, 1635-1636, 1637-1638, 1639-1640, 1641-1642, 1643-1644, 1645-1646, 1647-1648, 1649-1650, 1651-1652, 1653-1654, 1655-1656, 1657-1658, 1659-1660, 1661-1662, 1663-1664, 1665-1666, 1667-1668, 1669-1670, 1671-1672, 1673-1674, 1675-1676, 1677-1678, 1679-1680, 1681-1682, 1683-1684, 1685-1686, 1687-1688, 1689-1690, 1691-1692, 1693-1694, 1695-1696, 1697-1698, 1699-1700, 1701-1702, 1703-1704, 1705-1706, 1707-1708, 1709-1710, 1711-1712, 1713-1714, 1715-1716, 1717-1718, 1719-1720, 1721-1722, 1723-1724, 1725-1726, 1727-1728, 1729-1730, 1731-1732, 1733-1734, 1735-1736, 1737-1738, 1739-1740, 1741-1742, 1743-1744, 1745-1746, 1747-1748, 1749-1750, 1751-1752, 1753-1754, 1755-1756, 1757-1758, 1759-1760, 1761-1762, 1763-1764, 1765-1766, 1767-1768, 1769-1770, 1771-1772, 1773-1774, 1775-1776, 1777-1778, 1779-1780, 1781-1782, 1783-1784, 1785-1786, 1787-1788, 1789-1790, 1791-1792, 1793-1794, 1795-1796, 1797-1798, 1799-1800, 1801-1802, 1803-1804, 1805-1806, 1807-1808, 1809-1810, 1811-1812, 1813-1814, 1815-1816, 1817-1818, 1819-1820, 1821-1822, 1823-1824, 1825-1826, 1827-1828, 1829-1830, 1831-1832, 1833-1834, 1835-1836, 1837-1838, 1839-1840, 1841-1842, 1843-1844, 1845-1846, 1847-1848, 1849-1850, 1851-1852, 1853-1854, 1855-1856, 1857-1858, 1859-1860, 1861-1862, 1863-1864, 1865-1866, 1867-1868, 1869-1870, 1871-1872, 1873-1874, 1875-1876, 1877-1878, 1879-1880, 1881-1882, 1883-1884, 1885-1886, 1887-1888, 1889-1890, 1891-1892, 1893-1894, 1895-1896, 1897-1898, 1899-1900, 1901-1902, 1903-1904, 1905-1906, 1907-1908, 1909-1910, 1911-1912, 1913-1914, 1915-1916, 1917-1918, 1919-1920, 1921-1922, 1923-1924, 1925-1926, 1927-1928, 1929-1930, 1931-1932, 1933-1934, 1935-1936, 1937-1938, 1939-1940, 1941-1942, 1943-1944, 1945-1946, 1947-1948, 1949-1950, 1951-1952, 1953-1954, 1955-1956, 1957-1958, 1959-1960, 1961-1962, 1963-1964, 1965-1966, 1967-1968, 1969-1970, 1971-1972, 1973-1974, 1975-1976, 1977-1978, 1979-1980, 1981-1982, 1983-1984, 1985-1986, 1987-1988, 1989-1990, 1991-1992, 1993-1994, 1995-1996, 1997-1998, 1999-2000, 2001-2002, 2003-2004, 2005-2006, 2007-2008, 2009-2010, 2011-2012, 2013-2014, 2015-2016, 2017-2018, 2019-2020, 2021-2022, 2023-2024, 2025-2026, 2027-2028, 2029-2030, 2031-2032, 2033-2034, 2035-2036, 2037-2038, 2039-2040, 2041-2042, 2043-2044, 2045-2046, 2047-2048, 2049-2050, 2051-2052, 2053-2054, 2055-2056, 2057-2058, 2059-2060, 2061-2062, 2063-2064, 2065-2066, 2067-2068, 2069-2070, 2071-2072, 2073-2074, 2075-2076, 2077-2078, 2079-2080, 2081-2082, 2083-2084, 2085-2086, 2087-2088, 2089-2090, 2091-2092, 2093-2094, 2095-2096, 2097-2098, 2099-2100, 2101-2102, 2103-2104, 2105-2106, 2107-2108, 2109-2110, 2111-2112, 2113-2114, 2115-2116, 2117-2118, 2119-2120, 2121-2122, 2123-2124, 2125-2126, 2127-2128, 2129-2130, 2131-2132, 2133-2134, 2135-2136, 2137-2138, 2139-2140, 2141-2142, 2143-2144, 2145-2146, 2147-2148, 2149-2150, 2151-2152, 2153-2154, 2155-2156, 2157-2158, 2159-2160, 2161-2162, 2163-2164, 2165-2166, 2167-2168, 2169-2170, 2171-2172, 2173-2174, 2175-2176, 2177-2178, 2179-2180, 2181-2182, 2183-2184, 2185-2186, 2187-2188, 2189-2190, 2191-2192, 2193-2194, 2195-2196, 2197-2198, 2199-2200, 2201-2202, 2203-2204, 2205-2206, 2207-2208, 2209-2210, 2211-2212, 2213-2214, 2215-2216, 2217-2218, 2219-2220, 2221-2222, 2223-2224, 2225-2226, 2227-2228, 2229-2230, 2231-2232, 2233-2234, 2235-2236, 2237-2238, 2239-2240, 2241-2242, 2243-2244, 2245-2246, 2247-2248, 2249-2250, 2251-2252, 2253-2254, 2255-2256, 2257-2258, 2259-2260, 2261-2262, 2263-2264, 2265-2266, 2267-2268, 2269-2270, 2271-2272, 2273-2274, 2275-2276, 2277-2278, 2279-2280, 2281-2282, 2283-2284, 2285-2286, 2287-2288, 2289-2290, 2291-2292, 2293-2294, 2295-2296, 2297-2298, 2299-2300, 2301-2302, 2303-2304, 2305-2306, 2307-2308, 2309-2310, 2311-2312, 2313-2314, 2315-2316, 2317-2318, 2319-2320, 2321-2322, 2323-2324, 2325-2326, 2327-2328, 2329-2330, 2331-2332, 2333-2334, 2335-2336, 2337-2338, 2339-2340, 2341-2342, 2343-2344, 2345-2346, 2347-2348, 2349-2350, 2351-2352, 2353-2354, 2355-2356, 2357-2358, 2359-2360, 2361-2362, 2363-2364, 2365-2366, 2367-2368, 2369-2370, 2371-2372, 2373-2374, 2375-2376, 2377-2378, 2379-2380, 2381-2382, 2383-2384, 2385-2386, 2387-2388, 2389-2390, 2391-2392, 2393-2394, 2395-2396, 2397-2398, 2399-2400, 2401-2402, 24

USSR

UDC 621.791.79.046.003.13

IVOCHKIN, I. I., ALEKSEYEV, A. I. (Candidates of Techn. Sciences), SOSEDOV, A. F. (Engineer), /VNIImontazhspeystroy/, LEBEDEV, B. F. (Doctor of Techn. Sciences), AVRAMENKO, V. I. (Engineer) /Electric Welding Institute imeni Ye. O. Paton/, and IVOCHKIN, I. M., /Sokolovskiy Plant of Metal Structures/

"Electroslag Welding With the Use of Powdered Filler Metal"

Moscow, Svarochnoye proizvodstvo, No 5, May 72, pp 17-19

Abstract: The article describes an electroslag process involving the feed of powdered filler metal (PFM) to the slag bath. The use of PFM enables more effective utilization of the welding heat, doubles the welding efficiency, and yields a weld with better properties. In addition, the article discusses equipment designed for electroslag welding of low-carbon and low-alloy steels, 25-60 mm thick, with PFM and a consumable electrode of continuous cross sections. A block diagram of a unit for proportioning and feeding PFM to the slag bath is shown. Various PFM compositions for low-carbon and low-alloy steels are cited and test data on the strength properties of the welds are given. (2 illustrations, 4 tables, 4 bibliographic references)

1/1

USSR

UDC 621.375.4

ALEKSEYEV, A. G., USTINOV, V. V.

"Analysis of the Stability of the Operating Conditions of Amplifiers with Feedback Made of Field Transistors"

Materialy nauchno-tekhn. konferentsii. Leningr. elektrotekhn. in-t. svyazi. Vyp. 2 (Materials of the Scientific and Technical Conference. Leningrad Electrotechnical Communications Institute Vyp. 2), Leningrad, 1970, pp 176-179 (from RZh-Radiotekhnika, No 8, Aug 70, Abstract No 8D57)

Translation: A simple and sufficient universal procedure based on directional graphs is used to calculate the stability of the operating conditions of amplifiers with direct current feedback in which channel transistors are used.

1/1

USSR

621.334.66(038.8)

A
ALEKSEYEV, A. G., VASIL'YEV, M. P., MOZIN, I. V.

~~"Method of Measuring Comparative Magnetic Characteristics of Electron Syn-~~
chrotron Electromagnets"

USSR Authors' Certificate No. 234549, Filed 13/01/67, Published 22/05/69
(translated from Referativnyy Zhurnal Metrologiya I Izmeritel'naya Tekhnika,
No. 4, 1970, Abstract No. 4.32.1358, unsigned)

Translation: A method is suggested for measuring comparative magnetic characteristics of electron synchrotron electromagnets, based on comparison of the indications of transducers with magnetization placed at corresponding points on the electromagnet being studied and a standard electromagnet. In order to increase accuracy while retaining measurement time, currents are passed through the magnetizing windings at the corresponding measurement points which are proportional to the magnetization fields of the standard electromagnet, and the currents set up in supplementary transducer windings, which are proportional to the difference of the electromagnet being studied, are used to determine the value of the magnetic field and its gradient.

1/1

USSR

ALEKSEYEV, A. G., and VERKHOVSKAYA, T. A., Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, Vol 36, No 6, 1972, pp 1297-1300

the successive recording of patterns in the small-and large-angle region. By selecting the appropriate recording scale, the instrument constant for the small-angle study made can be determined with high accuracy, provided that the deflection system has good linear characteristics. The small-angle scattering of electrons by microinhomogeneities from several to hundreds of angstroms in size (depending on the atomic composition of the studied substance) is always accompanied by a relatively large background of inelastically scattered electrons, which must be eliminated if reliable information about the microstructure of a substance is desired in this region.

2/2

USSR

UDC 621.385.833:537.533.74

ALEKSEYEV, A. G., and VERKHOVSKAYA, T. A.

"Study of Small-Angle Electron Scattering"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, Vol 36, No 6,
1972, pp 1297-1300

Abstract: An attachment was developed for the EM-7 electron microscope for the direct recording of the intensity of scattered electrons. It includes a scintillation counter with an electron recording scheme according to the pulse count with a filter for sifting inelastically scattered electrons and with electromagnetic deflection coils. Deflection coils situated behind the projection lens are used for the detailed recording of the small-angle electron-diffraction patterns. Special coils, mounted directly behind the specimen before the magnification system, are provided for instrument calibration. One of the problems in small-angle diffraction is that of instrument calibration, which is simplified if the instrument includes a system for directly recording the electron-diffraction patterns and recording the diffraction curves on the tape of the self-recorder. The calibration coils make possible

USSR

UDC 532.529

ALEKSEYEV, A. D.

"Effect of the Character and Regime of Motion of a Suspension Medium on the Pseudoliquefaction Characteristic"

Izv. Tomsk. politekhn. in-ta (Bulletin of Tomsk Polytechnical Institute), 1971, Vol. 175, pp 188-191 (from RZh-Mekhanika, No 12, Dec 71, Abstract No 12B1477)

Translation: The periodic supply of a pseudoliquefying agent to a layer of finely grained material strongly effects the properties of the pseudoliquefaction layer. Studies made on polydisperse materials (granulated chemical-pharmaceutical preparations and poppy seeds) at air supply frequencies of 3.35 and 10 Hz showed that with a periodic supply of a pseudoliquefying medium the rate of the beginning of pseudoliquefaction and the rate at which stable pseudoliquefaction is observed decrease. With a decrease in particle size there is observed a tendency toward a rise in the effectiveness of the periodic supply of the gas. V. A. Kernerman.

1/1

USSR

UDC 8.74

POLONSKIY, A. E., ALEKSEYEV, A. D.

"Information Language for Describing Concepts Contained in Technological Documents"

V sb. Prom. kibernetika (Industrial Cybernetics -- collection of works), Kiev, 1971, pp 202-204 (from RZh-Kibernetika, No 9, Sep 72, Abstract No 9V604)

No abstract

1/1

- 64 -

USSR

ALEKSEYEV, A. A., et al, USSR Author's Certificate No 240761, filed 14 Mar 68, published 15 Aug 69 (from RZh -- Elektronika i yeye primeneniye, No 2, Feb 70, Abstract No 2B605P)

Abstract: the transistor amplifier, the base of which is connected through a resistor with the collector of the control transistor. 1 ill. S.D.

2/2

Controls

USSR

UDC 621.316.721 (088.8)

ALEKSEYEV, A. A., GONCHAROV, A. M. (Gorkovsk. issled. fiz.-
tekhn. in-t pri Gor'kovsk. Un-te -- Gorkiy Research Physical
Technical Institute Attached to Gorkiy University)

"Current Regulator"

USSR Author's Certificate No 240761, filed 14 Mar 68, published
15 Aug 69 (from RZh -- Elektronika i yeye primeneniye, No 2,
Feb 70, Abstract No 2B605P)

Abstract: A current regulator for digital order busses of
memory devices with tunnel diodes is patented. The regulator
is connected in an emitter follower circuit and in series with
the load a resistance is connected, the magnitude of which can
be commutated by an exterior signal. To assure nondependence
of the current on the load the possibility of control by
the digital order current, the emitter of the follower is con-
nected through a positive feedback network to the emitter of
1/2

is generally easy. These formulas are intended to be used by anyone who has a healthy, free, recoverable, strong in the central nervous system such as the cerebral, neurotic pains, fears of all kinds, obsessions, and various phobias. The objective of the higher (second) stage is to bring a person from a diseased, dazed and contemplative state that, so to speak, paralyzes and elevates the soul.

While the second stage was not used by Soviet medicine, the second formula of the first stage quickly was accepted by many physicians and patients, but only for a while. It gradually became clear that the second formula's formulas could not cope with the different nervous and mental disorders that one could have wished. Therefore, various modifications of the initial text of autogenetic training began to appear everywhere. Their authors adhered to the main principles of Schultz' method but altered the formulas for autogenetic training according to the objectives they set for themselves.

For example, Schultz thought his method should not be used for cold and blood pressure. The French psychiatrist A. Morel and A. Morel worked out their own version with their "hypnotic training" and, during the 1930s, it was widespread in controlling hypertension. After working to help considerably healthy persons, however, doctors all over the world began to state in the rapid changing situation they saw in countries, the All-Union Institute of Physical Culture developed a special technique of autogenetic training called "hypnotic-solitary training". This type of training specifically excluded entirely formulas that induce a sensation of heaviness and introduced others that provide relaxation of the muscles and joints. Quite a few other examples could be cited of the many different modifications that were devised to solve various concrete problems.

It is to be noted, however, when we do say whether sick or healthy, to now able to study any method of autogenetic training to suit his personal requirements. The only requirement that a sick person should do it under the guidance of a physician, whereas a healthy individual can work by himself after consulting a physician. A physician can suggest the most appropriate method and advice to the patient, to indicate to be mastered. We have all too often seen in the past the raising the people's level of mental hygiene. There are psychologists in many cities who can provide the necessary help for anyone desiring it. In addition, two operational centers are in operation. One, in Moscow, is the Psychotherapy Department of the Leningrad Institute for Postgraduate Medicine headed by Professor L. Z. Vekhovskiy. The other, in Moscow, is the Psychotherapy Department of the Soviet Institute for Postgraduate Medicine headed by Professor V. Ye. Pozharov.

And now let us formulate the question this way: Who needs to use self-regulation of his mental and physical states? The answer, perhaps everyone. However, is suffering from poor health, so that he can recover and then maintain his sense of well-being. Also a healthy person, so that he can avoid getting sick, in spite of the various difficulties in the way of doing so, and remain mentally healthy.

"I think that the only thing that we can do to help to maintain normal mental health is to have the people who have been hurt, from seeing the dead and the dying, to have already regulations with regard to the way that they are in our government that will make our fields to some extent, and is one thing that we have to start doing right in the middle, and mental health, one that is something that we can do. The powerful words of action on our mental procedures, we can have in regulation.

What Is Meant by Self-regulation? The definition given in a directed instruction unit¹ of a teacher and several students using inclusive methods. It has also been shown that we can people have the capacity for self-regulation. Perhaps the best of this connection are the Indian yogi who, according to legend, has been verified and compensated by scientists in a number of ways.

[illegible]

Schultz's method is as follows. It carefully covers both the perceptible physical shape, which one can actually observe, and the mental state as well. For example, if one concentrates on his arm, he is filling up with heat, a sensation of heaviness will develop in a dozen seconds or so.

The words employed here indicate standard methods are being suggested for "formalizing" the very fact that "physiological" verbal behavior is a "physically" demonstrable reaction form in the validity of the method and that it intensifies the effect of autoassociation. In the methods of auto-association that existed in Europe prior to the appearance of auto-association, it was not used as the principal means of self-education. However, it is known training, the connection between speech and physical sensations is effective.

Autogenous training consists of two stages. Here are the instructions for the lower stage: (1) I am completely calm. (2) My right hand is very heavy. (3) My right (left) arm is very warm. (4) My hand is heating quietly and strongly. (5) My breathing is very calm and is breathing easily. (6) My solar plexus is emitting heat. (7) My forehead

ALEKSEYEV, A.

SPDS 08406
13 March 1973

AUTOSUGGESTION

Article by A. Alekseyev, Moscow, Izvestia, Russian, No. 1, 1973,
p. 13-14.

There are problems toward a job and attitude helps
improving constantly over long periods at times the
three types of energy at which they attract very close
attention. Such problems include, above all, those
relating to the exertion for ways and means of controlling
the human mind and developing its potential. Interest
in the subject is literally growing from year to year.

First Stage - Normal

If all the organs and systems of a person are functioning according
to the laws of nature and if his ability to work, sleep, his appetite, and
social relations do not arouse concern and his frame of mind is good, we
say everything is all right with him and his life is normal.

A great deal is being done to ensure such normalcy. Specifically,
an array of medical men is working to assist in the scientific organization
of sound work, rest, and dietary regimens. To help clean the air and water,
to design rational clothing and footwear, to combat noise, dirt, foci of
infectious diseases, and many other factors injurious to health.

Such physicians are the servants of that vast branch of medicine
called sanitation and hygiene. Hygienists are like border guards. Their
duty is to prevent the enemy from entering the land of the normal and thus
protect the people's health.

It has long been true that disease, like fire, is easier to prevent
than to cure. That is why we can rightly say that sanitation and hygiene
are the medicine of the future. It will be a future in which disease will
have been virtually conquered and the medical men will be working mostly to
keep the people physically and mentally healthy.

SPDS # 58456
13 March 73

- 1 -

(I - USSR - C)

2/2 030

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0106843

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECTS OF A BUTADIENE STYRENE BLOCK COPOLYMER DST-30 (I) (CONTG. 30PERCENT STYRENE) ON THE PHYSICOMECH. PROPERTIES OF POLY(VINYL CHLORIDE) (II) WERE STUDIED. INTRODUCTION OF LARGER THAN 60 PARTS I-100 PARTS II BROUGHT ABOUT INCREASED TENSILE STRENGTH AND RELATIVE ELONGATION, SUGGESTING THAT I WAS A POLYMERIC PLASTICIZER OF II. THE FREEZE RESISTANCE, FLEXURAL STRENGTH, TEAR STRENGTH, AND REBOUND RESILIENCE INITIALLY DECLINED WITH ADDN. OF I, REACHING A MIN. AT 60-70 PARTS I, AND ON FURTHER ADDN. OF I, INCREASED, PRESUMABLY DUE TO LIMITED COMPATIBILITY BETWEEN I AND HIGHLY POLAR II. AN INTERLAYER PLASTICIZATION MECHANISM IS PROPOSED.

UNCLASSIFIED

1/2 030 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--POLYMERIC COMPOSITIONS BASED ON POLY(VINYL CHLORIDE) AND BUTADIENE
STYRENE THERMOELASTIC PLASTIC MATERIALS FOR ARTIFICIAL LEATHER -U-
AUTHOR--DENISENKO, I.S., KOVALEV, N.F., MISHUSTIN, I.U., ALEKSEYENKO, V.I.

COUNTRY OF INFO--USSR

SOURCE--KOZH., OBUV. PROM. 1970, 12(2) 44-6

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--POLYVINYL CHLORIDE, BUTADIENE STYRENE RESIN, LEATHER,
COPOLYMER, TENSILE STRENGTH, ELONGATION, FREEZING, PLASTICIZER/CURSTRO
BUTADIENE STYRENE RESIN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1989/0187

STEP NO--UR/0498/79/012/002/0044/0046

CIRC ACCESSION NO--AP0106843

UNCLASSIFIED

0001

A

USSR 61.791.042.9.03+1991.11

RSARAS, J. G., Engineer, and ALEXSEYEV, V. I. Engineer (Zhdanov Heavy Machinery Plant)

"Torches for Consumable-Electrode Welding of Aluminum and its Alloys in Protective Gases"

Moscow, Svarochnoye Proizvodstvo, No 7, Jul 70, pp 45-47

Abstract: A description is given of a series of torches for the automatic welding of aluminum and its alloys in protective gases by electrode wires 0.5 to 5 mm in diameter. The torches were developed and tested under service conditions at the Zhdanov Plant by the authors. Torches having two damping chambers and nozzles combining cylindrical and conical sections, contracting downward, ensure a high-laminarity gas flow and the best protection. Relations are given for calculating the ratio of various diameters and areas of passage between the first and second chambers. Basic nozzle and spout dimensions are given in a table. Special features of the torch are two annular gas damping chambers, limited externally by the cylindrical part of the torch case and provided with axial apertures for gas input from the first into the second chamber, and radial apertures for gas input from the second chamber into the torch nozzle chamber.

1/1

2/2 030

UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0107094

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A POLYESTER URETHANE (I) (BASED ON A PREPOLYMER PREPD. FROM POLY(OXYPROPYLENE) GLYCOL OF MOL. WT. 1000 AND 2,4-TOLYLENE DIISOCYANATE IN A MOLE RATIO OF 1:2) WAS MODIFIED WITH POLY(VINYL CHLORIDE) (II), CHLORINATED II, NITROCELLULOSE, AND A 30PERCENT ACRYLONITRILE VINYL ACETATE COPOLYMER (III) DISSOLVED IN HCONME SUB2. III MODIFIED I HAD SUPERIOR PHYSICOMECH. PROPERTIES, I.E. MIN. RIGIDITY AND VAPOR PERMEABILITY (3.9 MG-CM PRIME2 HR).

UNCLASSIFIED

1/2 030 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--MODIFICATION OF POLYESTER URETHANES BY RIGID POLYMERS FOR PREPARING
ARTIFICIAL LEATHER FOR CLOTHING -U-
AUTHOR--(04)-FREIDGELM, K.I., ALEKSEYENKO, V.I., YABKO, YA.M., POLINSKIY,
S.L.
COUNTRY OF INFO--USSR

SOURCE--KOZH.-OBUV. PROM. 1970, 12(2) 41-4

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--LEATHER, POLYURETHANE RESIN, POLYOXYPROPYLENE, GLYCOL, ORGANIC
ISOCYANATE, POLYVINYL CHLORIDE, NITROCELLULOSE, ACRYLONITRILE,
COPOLYMER, ACETATE, POLYMER PHYSICAL PROPERTY, PLASTIC MECHANICAL
PROPERTY, CLOTHING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1989/0489

STEP NO--UR/0498/70/012/002/0041/0044

CIRC ACCESSION NO--AP0107094
UNCLASSIFIED

USSR

UDC 669.15.018.44

ALEKSEYENKO, N. N., GORYNIN, I. V., YEFIMOV, A. V., RAZOV, I. A., SIKORSKIY,
U. F.

"Effect of Scale and Neutron Irradiation When Testing 15Kh2NFA Heat-Resistant Steel"

Metallovedeniye -- V sb. (Physical Metallurgy -- collection of works), No 14, Leningrad, Sudostroyeniye Press, 1970, pp 186-193 (from RZh-Metallurgiya, No 4, Apr 71, Abstract No 4I635)

Translation: The effect of the scaling factor on improving the critical embrittlement temperature of 15Kh2NFA heat-resistant steel is studied. It is established that the magnitude of the scaling effect is reached in 80-100 mm samples, and it is ~50°. Neutron irradiation at 150° with a dose of 10^{20} neutrons/cm² ($E > 1$ megaelectron volt) lowers the scaling effect somewhat with an increase in sample size from 5 to 10 mm. It is demonstrated that low sensitivity of this steel to scale and also to loading rate and neutron irradiation arises from its alloying and uniform structure of the sorbite as a result of quenching and tempering. There are 2 illustrations, 6 tables, and a 14-entry bibliography.

1/1

2/2 022

UNCLASSIFIED

PROCESSING DATE--23 OCT 70

CIRC ACCESSION NO--AP0105179

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A THEORETICAL TREATMENT IS PRESENTED OF THE TEMP. DEPENDENCES OF THE MOBILITIES IN DIODES, TAKING INTO ACCOUNT THE EFFECT OF HETEROGENEITIES. AN ANAL. OF THE RESULTS SHOWS THAT IN A SUFFICIENTLY LOW OHMIC SAMPLE, THE VOL. OF THE V.M. OCCUPIED BY HETEROGENEITIES IS SMALL, BUT THE DISTANCE BETWEEN THEM IS COMPARABLE TO THE ELECTRON MEAN FREE PATH. IN A MORE HEAVILY COMPENSATED SAMPLE, THE VOL. OCCUPIED BY THE HETEROGENEITIES IS GREATER, THE DISTANCE BETWEEN THEM IS GREAT AND THE SCATTERING ON THEM IS LESS SIGNIFICANT. THE MOBILITY IN THIS CASE INCREASES WITH AN INCREASE IN TEMP. IN SUCH A SAMPLE, A RECOMPENSATED AREA MAY EXIST IN WHICH THE FERMI LEVEL LIES SIMILAR TO 0.6 EV FROM THE CONDUCTION BAND. ON THE BOUNDARY OF THESE REGIONS, AN ELEC. FIELD BARRIER IS FORMED, TENS OF EV IN MAGNITUDE. AS THE DEGREE OF COMPENSATION INCREASES, THE PROBABILITY OF THE FORMATION OF SUCH OHMIC REGIONS INCREASES AND, AS A RULE, THE MOBILITY AT ROOM TEMP. IS LOW.

FACILITY: FIZ. TEKH. INST. IM. IOFFE, LENINGRAD, USSR.

UNCLASSIFIED

1/2 022 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--EFFECT OF HETEROGENEITIES ON THE MOBILITY OF ELECTONS IN CADMIUM
TELLURIDE -U-
AUTHOR-(03)-ALEKSEYENKO, M.V., ARKADYEVA, YE.N., MATVEYEV, O.A.

COUNTRY OF INFO--USSR

SOURCE--FIZ. TEKH. POLUPROV. 1970, 4(2), 414-16

DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--CADMIUM TELLURIDE, ELECTRON MOBILITY, CRYSTAL DEFECT, IMPURITY
LEVEL, PARTICLE DISTRIBUTION, FERMI LEVEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1988/0092

STEP NO--UR/0449/70/004/002/0414/0416

CIRC ACCESSION NO--AP0105178
UNCLASSIFIED

USSR

UDC 517.927

ALEKSEYENKO, M. I., Mogilev Machine-Building Institute

"On the Question of the Unique Solvability of a Linear, Periodic Boundary Value Problem"

Minsk, Differentsial'nyye Uravneniya, Vol 9, No 2, Feb 73, pp 203-210

Abstract: The article suggests a construction for the function of periodic boundary conditions and on this basis formulates a series of conditions for the unique solvability of the periodic boundary value problem

$$Ly = \sum_{i=0}^n p_i(t) y^{(i)} = f(t), \quad p_n(t) \equiv 1, \quad y^{(i)}(0) = y^{(i)}(a), \quad i=0, \dots, n-1.$$

UDC 669.15.018.8(088.8)

USSR

FEDOTOVA, L. S., ALEKSEYENKO, M. F., POTAK, YA. M., BELYAKOVA, V. A., ORZHEKH-
OVSKIY, YU. F., SHEPETOV, V. A., TOPILIN, V. V., DORONIN, V. M., KLYUYEV,
M. M.

"Stainless Steel"

USSR Author's Certificate No 276434, Filed 25 Jul 68, Published 13 Oct 70
(from RZh-Metallurgiya, No 4, Apr 71, Abstract No 41637P)

Translation: A steel for operation at temperatures up to 600° is proposed with the following composition (in %): C 0.05-0.09, Cr 10.5-12, Ni 1.4-1.8, Mo 0.35-0.5, Nb 0.06-0.15, V 0.15-0.25, Si < 0.6, Mn < 0.6, Ce < 0.02. The ratio of the alloying elements satisfies the formula $0.68\% \text{ Cr} + (\% \text{ Mo} + \% \text{ V} + \% \text{ Si}) + 0.5\% \text{ Nb} - (30\% \text{ C} + \% \text{ Ni} + 0.5\% \text{ Mn}) \leq 6.6$. After quenching from 1,000° and tempering at 570°, at 20, 500, and 550° the steel has σ_B of 120, 70, and 55 kg/mm², σ_T of 100, 75, and 55 kg/mm², δ of 12% and ψ of 60-65%, respectively; σ_{500}^{500} and σ_{100}^{550} are 56 and 32 kg/mm², respectively.

1/1

USSR

UDC 539.67

KRIVONOGOV, G. S., MATVEYEV, V. V., ALEKSEYENKO, M. F., LIVSHITS, B. G.,
and YAKOVLEV, A. P.

"Certain Regularities of Magnetic Hysteresis in Stainless Martensite Class Steels"

Sb. "Vnutrenneye treniye v metallicheskih materialakh" (Internal Friction in Metallic Materials), Moscow, Izd-vo "Nauka," 1970, pp 170-175

Abstract: The effect of temperature and static stresses on the magnitude of hysteresis losses in stainless steels of the martensite class, related mainly to the process of irreversible displacements of 90° domain walls, is studied.

Expressions are derived for the dependence of damping decrement on temperature, static stresses, and magnetomechanical hysteresis constants. The effect of various heat treatment conditions on magnetomechanical hysteresis is discussed. Good agreement was obtained between experimental and theoretical data. 4 figures, 5 references.

2/2 021

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0121132

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PRIME60 CO GAMMA RAYS (1-200 KRADS) AND 630 MEV PROTONS (1-100 KRADS) WERE USED, LETHAL DOSES BEING 150 AND 50 KRADS, RESP. NONE OF THE DOSES OF IRRADN. RESULTED IN AN INCREASE IN THE CROP. OVER THE DOSE INTERVAL OF 1-20 KRADS NO DIFFERENCES WERE FOUND BETWEEN THE ACTIONS OF PROTONS AND GAMMA RAYS. FOR HIGHER DOSES THE ACTION OF PROTONS WAS MUCH STRONGER THAN THAT OF GAMMA RAYS. IRRADN. WITH PROTONS IN LOW DOSES (1-5 KRADS) RESULTED IN A SLIGHT STIMULATION OF THE INITIAL GROWTH. FACILITY: INST.
MED.-BIOL. PROBL., MOSCOW, USSR.

UNCLASSIFIED

1/2 021 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--BIOLOGICAL EFFECTIVENESS OF PROTONS AND GAMMA RAYS FOR CARROTS
DURING PRESOWING IRRADIATION OF SEEDS -U-
AUTHOR-(02)-GERTSUSKIY, D.F., ALEKSEYENKO, L.V.

COUNTRY OF INFO--USSR

SOURCE--RADIOBIOLOGIYA 1970, 10(1), 94-7

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--AGRICULTURE CROP SEED, PROTON RADIATION BIOLOGIC EFFECT, GAMMA
RADIATION, COBALT ISOTOPE, RADIATION DOSAGE, RADIATION PLANT EFFECT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1998/0458

STEP NO--UR/0205/70/010/001/0094/0097

CIRC ACCESSION NO--AP0121132
UNCLASSIFIED

ALEKSEYENKO, L. V.

Sov. J. RS 55100

24 Feb 73

UDC 582.736-148-110.5:576.312.32.005.14:629.78.068

EFFECT OF FLIGHT FACTORS ON RADIATION DAMAGE TO CHROMOSOMES IN DORMANT PEA SEEDS

Article by L. V. Alekseyenko and K. A. Tsirupinskiy, Moscow, Kosmos-366 Artificial Satellite Journal, Vol. 5, No. 6, 1971, submitted for publication 25 June 1971, pp 31-32.

Abstract: Dormant pea seeds with a moisture content of 10-15 percent exposed before flight to UCB gamma irradiation in doses of 5 and 10 kilorads were carried aboard the Kosmos-366 artificial earth satellite during the radiation period. A synchronous experiment was conducted on the ground. The experiment was carried out in the absence of atmospheric absorption of the gamma rays and also affected by a "transport" control. Results of study and statistical treatment in which we used the method of least squares during the flight and the method of least squares for the ground control were compared. The results of the experiment showed that the damage level correlated only with the radiation dose.

It is well known in radiobiology that irradiated dormant plant seeds react relatively easily to different external factors by a decrease or increase in the degree of radiation damage. The many data from experimental investigations, which have not been accumulated enable us to postulate that irradiated dormant biological objects may prove to be suitable in studying the modifying influence exerted on radiation damage by spaceflight factors, constituting the overall and multisided effect. This paper gives the results of an experiment for studying the effect of spaceflight factors aboard the Kosmos-366 artificial satellite on radiation damage of chromosomes in dormant pea seeds.

1962 621.78.048:582.433.4.057

PROCESS IN CONNECTION WITH THE INVESTIGATION OF THE
 SOURCE OF THE BOMBING OF THE U.S. AIRCRAFT

Article by Yu. I. Izraelov, A. Miller, and L. V. Alekseev, Mathematical Moscow University Bulletin, Vol. 5, No. 5, 1971, submitted for publication 25 June 1971, pp. 21-27.

Abstract: The effect of sporelight factor on the biological effectiveness of X-rays was studied with respect to lettuce seeds. It was found that the film exerted no significant effect on the energy of seed germination. The effect of the primary root in flight specimens irradiated before flight was similar to that in the ground controls. According to this test, flight factors influenced the effectiveness of sporelight irradiation insignificantly. The results of a more rigorous procedure indicated the seeds of lettuce irradiated before flight were not so sensitive to X-ray damage as the ground controls. The seed exposure to X-rays leads to the greatest extent of the biological damage when the film is irradiated in a slight and moderate dose. The results of the laboratory testing of plant seeds in connection with the laboratory

The results of the influence of climate factors and feeding condition on the growth of the larvae (Table 1) show that the growth of larvae, through the period of the experiment, was characterized by a high degree of regularity. The degree of the influence of the feeding condition on the growth of the larvae was characterized by a high degree of regularity. The degree of the influence of the feeding condition on the growth of the larvae was characterized by a high degree of regularity.

2/2 028

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0131482

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. KINETICS OF $\text{LN}(\text{BRO SUB3})$ SUB3 (LN
EQUALS LA, PR, ND, SM, CD, DY, HO, ER, YB, LU, AND Y) THERMAL DECOMP. .
WAS STUDIED AT 160-280DEGREES IN A PURE N ATM. BY A SPRING BALLANCE
METHOD. THE BROMATES WERE SYNTHETIZED FROM THE RESP. OXIDES AND HBRO .
SUB3. THE EXPTL. DATA WERE TREATED ACCORDING TO THE EQUATION $\alpha = 1 - \exp(-k\tau)$ WHERE α EQUALS FRACTION OF
DECOMP. BROMATE, τ EQUALS TIME, k EQUALS REACTION RATE CONST., N
EQUALS CONST.; THE ACTIVATION ENERGIES WERE COMPUTED. THE ACTIVATION
ENERGIES OF BROMATE DECOMP. DECREASE IN THE LA-LU SERIES; THIS DECREASE
IS EXPLAINED BY THE INCREASING ROLE OF CATION POLARIZATION IN THE SAME
SERIES. FACILITY: TOMSK. GOS. UNIV. IM. KUIBYSHEVA, TOMSK,
USSR.

UNCLASSIFIED

1/2 028 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--KINETICS OF THE THERMAL DECOMPOSITION OF RARE EARTH AND YTTRIUM
BROMATES -U-
AUTHOR-(03)-YAKUNINA, G.M., ALEKSEYENKO, L.A., SEREBRENNIKOV, V.V.
COUNTRY OF INFO--USSR
SOURCE--ZH. FIZ. KHIM. 1970, 44(1), 60-3
DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--BROMATE, RARE EARTH COMPOUND, CHEMICAL REACTION KINETICS,
THERMAL DECOMPOSITION, YTTRIUM COMPOUND, ACTIVATION ENERGY, MATHEMATIC
EXPRESSION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3004/0896

STEP NO--UR/0057/70/044/001/0060/0063

CIRC ACCESSION NO--AP0131482

UNCLASSIFIED

USSR

ODINTSOV, V. S., et al., Moscow, Doklady Akademii Nauk SSSR, Vol 190, No 1, Jan/Feb 70, pp 224-226

treated with eserine. Microphotography showed that the dark-brown zones in the ganglia and connectors of the central nervous system of the larvae are areas of localization of the greatest acetylcholinesterase activity, leading to the conclusion that the intensity of the coloration may serve as a criterion of the intensity of acetylcholinesterase activity. It was histochemically established that acetylcholinesterase is highly active in certain zones of all ganglia of the central nervous system, particularly in the areas of the neuropil, synaptic connections, and peripheral zones. Slight coloration in other zones of the ganglia is an indication of low acetylcholinesterase activity. The high acetylcholinesterase activity in the central nervous system of the wintering larvae of gnats indicates that the property of continuous development is characteristic of this species, and is responsible for the large increase of the spring population of these particularly vicious blood-sucking insects.

2/2

USSR

A UDC 591.8:577.4:591.481:595.773

ODINTSOV, V. S., TERTYSHNYY, V. N., and ALEKSYENKO, I. P., Institute of Organic Chemistry, Academy of Sciences Ukrainian SSR, Kiev

"Localization of Acetylcholinesterase Activity in the Central Nervous System of Larvae of Blood-Sucking Gnats (Diptera: Simuliidae) Developing in Winter."

Moscow, Doklady Akademii Nauk SSSR, Vol 190, No 1, Jan/Feb 70, pp 224-226

Abstract: Young larvae of blood-sucking gnats (species *Simulium*), obtained from forest ponds and streams in the Kiev area in January, 1969, were used. With the help of specially prepared needles, the nervous network was exarticulated from the larvae, placed in icecold distilled water, and (after fixation) incubated in a medium from which $Pb(NO_3)_2$ was excluded. Acetylthiocholine iodide was used as a substrate. Hydrogen sulfide in Ringer solution was used to impart a dark-brown color to the colorless copper thiocholate. The nervous network was then washed with distilled water, treated with 10% neutral formalin, washed again, and embedded in glycerin-gelatin. In control experiments, the nervous network prior to incubation was

1/2

USSR

UDC 621.311.21(282.247.32):624.146.2.004.28

ALEKSEYENKO, I. E., engineer

"Ice Problems at the Dniepro GES imeni V. I. Lenin"

Moscow, Gidrotekhnicheskoye Stroitel'stvo, No 1, January 1971, pp 28-31

Abstract: In the spring of 1954 difficulties were experienced at the DnieproGES with chunks of ice of 2 to 4 square meter being sucked to the inlet racks of unit No 9 resulting in pressure drop across the racks of 2 meter which is the strength limit of the rack. The turbine gates were partly closed to reduce the flow and therefore the pressure drop across the rack, the ice chunks were then washed out by the flow of water the temperature of which was 0.2 to 0.3°C.

In January 1969 a lengthy storm with low air temperature resulted in super-cooling of water and formation of slush to the depth of 20 meters. This slush caused icing along the entire height of the inlet racks. The thickness of the porous laminar ice exceeded 50 cm. There was some damage to the racks and to the hoisting equipment when the racks were raised for removing the ice.

1/1

USSR

GUREVICH, S. M., et al., Avtomaticheskaya Svarka, No 3, Mar 71,
pp 27-29

molybdenum-carbon-iron alloys increases.

The mean hardness of welded joints of molybdenum alloys with $\delta = 1$ mm at various distances from the weld is plotted. These data show that an increase in hardness along the axis of the weld and a decrease at the fusion line are especially characteristic for alloys of the molybdenum-carbon system. Group VIII alloying of molybdenum with carbon leads to a smoother variation of hardness with respect to joint cross section; irridium and nickel have the most favorable effects.

USSR

UDC 621.791.011:669.28

GUREVICH, S. M., NERODENKO, M.M., ~~ALEKSEYENKO, G. N.~~, Institute of Electric Welding imeni Ye. O. Paton, Academy of Sciences, Ukrainian SSR, BIRYUKOVA, T. A., and SHCHUKYN, A. A., Moscow

"Weldability of Some Molybdenum Alloys"

Kiev, Avtomaticheskaya Svarka, No 3, Mar 71, pp 27-29

Abstract: A study was made of the weldability of molybdenum alloyed with carbon and group VIII elements (iron, cobalt, nickel, and irridium). The test procedure is described, and the mechanical properties of welded joints of the molybdenum alloys are tabulated. It was found that iron, cobalt, nickel, and irridium refine the structure of the weld. Group VIII elements increase the difference between the ultimate strength and yield point of joints made of alloys of molybdenum with carbon. In the entire investigated range of concentrations of these elements, the ratio $\sigma_{0.2}/\sigma_B$ during bending is minimal for joints of molybdenum-

carbon-nickel and molybdenum-carbon-irridium alloys. With an increase in iron content the ultimate strength of the joints of

1/2

USSR

ALEKSEYENKO, G. N., et al, Avtomaticheskaya svarka, No 4, Apr 72, pp 47-49

promotes strengthening of the metal bond in the boundary layers owing to the localized increase of electron concentration. This strengthening of grain boundaries by nickel appears to be the determining factor in raising the plasticity of TSM-3 alloy in recrystallized state. (2 illustrations, 3 tables, 4 bibliographic references)

2/2

- 28 -

Heat Treatment

USSR

UDC 621.791.856:669.28

ALEKSEYENKO, G. N., NERODENKO, M. M. (Electric Welding Institute imeni YE. O. PATON, Academy of Sciences Ukrainian SSR), BIRYUKOVA, T. A., DANIYELIAN, T. A., MAL'TSEV, M. V., FREZE, N. I., and SHCHUKIN, A. A. (Moscow)

"Effect of Heat Treating on the Properties of Molybdenum-Carbon-Nickel Alloys and Their Weld Joints"

Kiev, Avtomaticheskaya svarka, No 4, Apr 72, pp 47-49

Abstract: The study deals with the properties of intermediate products from TSM-3 structural molybdenum alloy (0.05-0.10% wt % C and 0.01-0.10% Ni) following annealing. The specimens were tensile-tested at room temperature, at $2.5 \cdot 10^{-3} \text{ sec}^{-1}$ deformation rates and were arc-welded in a controlled inert-gas atmosphere. The specimens were pre-annealed for 1 hour in vacuum (10^{-5} mm Hg) at 800, 1100, 1200, 1300, 1400, 1500, 1600, and 1700°C. Metallographic examinations indicate that recrystallization begins at 1200°C and is completed at 1400°C. Maximum plasticity was shown by specimens with a completely recrystallized structure. Pre-annealing appears to upgrade the weld quality. Nickel tends to concentrate along the grain boundaries and not only hinders carbon diffusion, but also

1/2

USSR

UDC 575.1:591.526+576.8.095.14

DUBININ, N. P., SHEVCHENKO, V. A., ALEKSEYENOK, A. Ya., CHEREZHANOVA, L. V.,
and TISHCHENKO, Ye. M.

"Genetic Processes in Populations Exposed to Ionizing Radiation"

Moscow, Uspekhi Sovremennoy Genetiki, No 4, 1972, pp 170-205

Abstract: The article is a review of experimental and theoretical studies concerned with the effects of radiation on populations and biocenoses. It summarizes and systematizes the published data and the authors' long-term observations on the genetic processes that take place in populations chronically and protractedly exposed to radiation. It also examines and discusses the processes at work in populations of unicellular organisms (microalgae), higher plants, and mammals. The genetic adaptation of populations to chronic, protracted radiation is discussed, 13 tables, 13 illustrations, bibliography of 7 references.

USSR
ALEKSEYCHIK, M. I.

UDC: 517.2

"The Significance in a Differential Game of Specified Duration"

Moscow, Prikladnaya Matematika i Mekhanika, vol 36, No 2,
189-200

Abstract: In this differential game the first player tries to minimize the value of a functional reward while the second tries to counteract his opponent's attempts. The problem the author sets himself is to investigate directly the existence of a significance in this game. While such an investigation would encounter insuperable obstacles when directed at a continuous game, it is susceptible of solution if the game is considered to be discrete -- i.e., of specified duration -- when the game becomes an approximation of some set of games in various steps. Two sequences, consisting of minimum and maximum values of the reward in these discrete games, are considered. If the sequences converge to a common limited value, that value is defined as the generalized significance of the differential game. The game itself is an extension of a proposal by R. Ayvaks in his book, Differentsial'nyye igry (Differential Games) published by "Mir," 1967.

1/1

USSR

UDC: 621.317.335.029.64

ALEKSEYCHIK. L. V., KAZANTSEV, Yu. A.

"On a Resonance Method of Measuring Permittivity in the Centimeter Wave Band"

Dokl. Vses. nauchno-tekhn. konferentsii po radiotekhn. izmereniyam. T. 1 (Reports of the All-Union Scientific and Technical Conference on Radio Engineering Measurements. Vol. 1), Novosibirsk, 1970, pp 71-72 (from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1A344)

Translation: The authors give equations for the wave numbers inside and outside of the dielectric cavity for a system made up of a dielectric resonator excited in the $TE_{11\delta}$ mode and a small ferrite ZhIG sphere located in the external field of the resonator. It is shown how the wave numbers and resonance frequency of the sphere can be experimentally found and used for determining permittivity ϵ . The high accuracy of the method is noted ($\leq 1\%$ error). The method should be used for values of ϵ in the range from 50 to 5000 for materials with small losses ($\tan\delta \leq 10^{-3}$) in the centimeter wave band. Bibliography of two titles. E. L.

1/1

USSR

UDC 577.1:615.7/9

KUZIV, R. S., and ALEKSEVICH, Ya. I.

"Effect of Qualitatively Different Protein on Some Biochemical Indices of the Blood of Animals Subjected to the Action of Elemental Sulfur"

Fakторы vneshn. sredy i ikh znachenie dlya zdorov'ya naseleniya. Resp. mezhved. sb. (Ambient Factors and Their Significance for Public Health. Republic Interdepartmental Collection), 1970, vyp. 2, pp 51-55 (from RZh-Biologicheskaya Khimiya, No 5, 10 Mar 71, Abstract No 5F2057)

Translation: Prolonged (4 months) introduction of elemental sulfur (9.3 mg/kg per day; daily) into the stomach of rats led to development of activity of catalase and peroxidase of the blood and reduced the concentration of SH groups. There was almost no change in the total concentration of blood proteins, albumins and globulins. The addition of casein to the ration normalized the biochemical indices, which the authors attribute to a reduction of intoxication. The introduction of soybean protein or meat was less effective.

1/1

- 61 -

2/2 025

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0129470

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE RECOVERY PHENOMENA EXHIBITED BY MARAGING FE,NI,MO, FE,NI,TI, AND FE,NI,MO,CO ALLOYS WERE STUDIED. THE EXTENT OF THE RECOVERY PROCESS DEPENDED ON THE DEGREE OF DECOMPOSITION OF THE SOLID SOLUTION AND THE DIFFERENCE BETWEEN THE TEMP. OF PRELIMINARY AGEING AND RECOVERY IN EACH CASE. THE EXTENT OF THE RECOVERY ALSO DEPENDED TO SOME EXTENT ON THE PROPORTION OF CO IN THE ALLOYS. IN SOME CASES A METASTABLE PHASE WAS FORMED DURING THE LOW TEMP. AGEING OF THE FE,NI,MO,CO ALLOYS.

UNCLASSIFIED

1/2 025 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--PHENOMENON OF RECOVERY IN ALLOYS WITH AGEING MARTENSITE -U-
AUTHOR--(03)-ALEKSENKO, E.A., KULINICHEV, G.P., PERKAS, M.D.
COUNTRY OF INFO--USSR A
SOURCE--FIZIKA METALLOV I METALLOVEDENIE, FEB. 1970, 29, (2), 335-339
DATE PUBLISHED----FEB70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--SOLID SOLUTION, CHEMICAL DECOMPOSITION, IRON ALLOY, NICKEL
ALLOY, MOLYBDENUM ALLOY, COBALT ALLOY, TITANIUM ALLOY, METAL AGING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3003/0214 STEP NO--UR/0126/70/029/002/0335/0339

CIRC ACCESSION NO--AP0129470
UNCLASSIFIED

ABSTRACT

Physical Models of Low-Frequency Noise and Instability in the Operation of Vacuum Tubes. Abstracted from: Radiotekhnika i Elektronika, No. 12, 1972, pp. 2200-2204. In Russian.
See also: 86-00513R002065900019-6
 V. V. Loshakov, P. L. Seleznev, Radio Engng. Electron. Phys., 1972.

This article gives a classification and comparative analysis of known physical models of low-frequency noise and instability in the electrical characteristics of vacuum tubes. The interrelationship of the physical processes in the tube that produce noise and instability is emphasized. Several methods are examined for decreasing instability and noise.

The article contains 13 figures and 44 bibliographic references.

UDC 621.385.6-021.378.14.3
 Basic Parameters and Equivalent Circuits of Frequency Operational Amplifiers. Abstracted from: Radiotekhnika i Elektronika, No. 12, 1972, pp. 2200-2204. In Russian.
 P. L. Seleznev, Radio Engng. Electron. Phys., 1972.

An evaluation is given of the feasibility of using the use of integrated circuits of operational amplifiers in microelectronic equipment for processing and/or amplification. The article examines the possibility of using operational amplifiers in equivalent circuits and basic parameters.

The article contains 14 figures, 3 tables, and 44 bibliographic references.

ALEKSENKO, A.G.

Microelectronics

ISSN 0733
25 October 1972

MICROELECTRONICS

Excerpt from Russian-language book edited by P. V. Tokin:
Mikroelektronika, No. 5, 1972, Sovetskoye Radio Publishing House,
Moscow, UDC 621.382.621.396.6-161.5.

CONTENTS	PAGE
Association.....	1
Obituary of Fedor Viktorovich Lashin.....	2
Foreword.....	3
Abstracts.....	5

- 2 -

[1 - USSR - F]

USSR

ALEKSENKO, A. G.

"On Requirements for Engineers in the Design and Production of Microelectronic Equipment"

Kiev, IVUZ Radioelektronika, Vol 14, No 11, Nov 71, pp 1385-1387

Abstract: The author discusses the nontraditional requirements which must be met by engineers working in the design and production of microelectronic equipment. These requirements are based on the necessity for integration of information separated by professional barriers relating to such areas as cybernetics, physics, chemistry, technology, precision instrument building, circuit engineering, applied mathematics and systems engineering. Some general requirements are outlined for a system designed for training such specialists. Bibliography of fourteen titles.

1/1

- 41 -

USSR

UDC: 621.396.6-181.5

ZOLOTAREV, T. V., OSTAPENKO, G. S., PETROV, L. N., UDOVIK, A. P.,
ARAKCHEYEVA, I. A., NIKISHIN, V. I., and ALEKSENKO, A. G...

"Effect of Distributed Capacitance and Geometric Dimensions of
Monolithic Circuit Resistors on Their Frequency Characteristics"

Kiev, Investiya VUZ--Radioelektronika, Vol. 13, No. 10, pp 1272-1275

Abstract: This brief communication deals with parasitic effects in integrated circuits manufactured by the planar-epitaxial process, with the elements separated by p-n junctions. The resistors in such a circuit are inserted by diffusion methods; and are thus especially subject to parasitic elements including a distributed transistor and distributed capacitances of p-n junctions. As proof, the cross section of an integrated circuit with its diffusion resistor is shown, and with it the equivalent circuit. From this circuit, the authors conclude that the frequency effect of the resistor is inversely proportional to the width of the resistor --- at least up to the practical limit of resistor width, which is about 10 μ . Diagrams are shown which can be used for determining the geometric dimensions and limiting frequency of the monolithic resistors from the known resistance values, or the reverse. A plot of the frequency characteristics of two monolithic resistors is also given.

1/1

USSR

UDC 621.382.8-416

ALEKSENKO, A.G., CHESNOKOV, M.N.

"Topological Transformation During Design Of Film Hybrid Integrated Circuits"

V sb. Mikroelektronika (Microelectronics--Collection Of Works), Moscow, Izd-vo "Sovetskoye Radio," No 4, 1971, pp 133-140

Abstract: The paper describes the principal steps of the topological design (i.e., determination of the "geometry" of the components, their efficient disposition on the substrate, and the composition of the connection diagram assembly as applied to the type of construction of the body provided) of film hybrid microcircuits and the method of transformation of the passive part of a network [tsep'] based on the shifting of the edge of the graph. An example is given of design sketches of the arrangement on the substrate of components of hybrid integrated circuits. 4 fig. 5 ref.

1/1

USSR

UDC 521.122 + 546.732'131 + 547.496.3

ALEKSENKO, V. A., DULOVA, V. I., and KREMLEV, M. M., Dnepropetrovsk
Chemical-Technological Institute imeni F. E. Dzerzhinskiy

"Complex Formation of CoCl_2 With N-Aryl-N'-diphenoxythiophosphonothioureas"

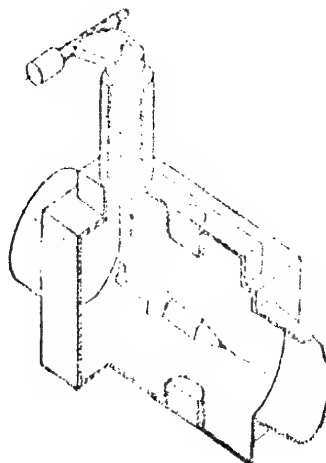
Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 10, Oct 73, pp 2211-2216

Abstract: A series of novel N-aryl-N'-diphenoxythiophosphonothioureas has been synthesized and their ionization constants have been determined. The complex formation of these phosphonothioureas with CoCl_2 in acetone has been investigated spectrophotometrically. It has been shown that the graduated instability constants of these complexes are correlated with Hammett's constants. Some of the complexes formed have been isolated; their structure and properties have been studied, the IR spectra were reported.

1/1

USSR

KOPTEV, V. I. et al., Soviet Patent No 304536



2/2

USSR

U.S. SECRET

KOPTEN, V. I., ALEKSEICHEN, L. V., PAVLOV, Y. S., FROSTOV, V. Y.,
STEKENIUC, K. A.

"A Device for Determining the Angle of Attack of a Model in a Wind Tunnel"

Moscow, Otkrytiye, Izobreteniya, Progressivnye Obraztzy, Zhurnal, No 2, Jan 72, Author's Certificate No. 224,36, Division G. Inventor's No. 1, published 23 Dec 72, p. 145

Translation: This Author's Certificate describes a device for determining the angle of attack of a model in a wind tunnel. The device contains a mechanism for setting angles of attack, a model holder, and recording equipment. The angle-setting mechanism is mounted in the vertical section of the wind tunnel. As a distinguishing feature of the device, the unit is designed for improved precision in determining the angle of attack in any plane. Pertained to the value of the vertical angle of attack in the wind tunnel are the polar of a permanent electromagnetic induction coil, the response to a change in the solid position of the coil, and the coil is inserted in the holder in the solid position of the coil.

ALEKSAR YAN, I. V.

SO: JPRS 54740
20 DEC 71

UDC: 614.355 (049.3)

MILITARY SOCIAL HYGIENE AND MODERN TIMES

* (Public Health)

Article by Professor I. V. Aleksaryan, V. A. Yarovskiy, Moscow, Sovetskoye Zdravoohraneniye, Russian, No 11, 1971, submitted 22 May 1971, pp 41-45]

Soviet public health is a well organized and comprehensive system of socio-economic and medical measures directed toward the prevention and treatment of disease, to provide for optimum development of the growing generation, and create healthy working and living conditions. The scientific theoretical basis of public health is social hygiene, the science that deals with national health protection, with the social bases of medicine and public health.

The organic unity of social hygiene and Soviet public health organization ensures the indivisibility of theory and practice in our country. The main objective of social hygiene is to analyze the main patterns determining the correlation between health and public health care and social conditions, and to provide a Marxist-Leninist solution to the problem of correlation between social and biological elements. The results of such analysis predetermine the necessary theoretical bases for elaboration of a system of practical public health measures as a whole and in the different branches of public health in accordance with the achievements in science and practice.

An extremely important section of social hygiene is investigation of the different aspects of the problem related to the effect of wars on the health of the people, investigation of the means of reducing the adverse effect of wartime factors on the health of the people, and development of measures to increase the effectiveness of therapeutic and preventive care for all population groups in wartime.

The timeliness of development of this section of social hygiene is determined by the fact that aggressive imperialistic forces still exist and are active in the modern world. The original aggression of the USA against the nations of Indochina continues, armed is being shed in different parts of the

which reference to the article by N. B. Gavrilov, "Formation and Tasks of the Social Hygiene of War," Sovetskoye Zdravoohraneniye, No 2, 1971.

Public Health

USSR

ALEKSANDROV, A. P., et al., Optika i Spektroskopiya, Vol 29, No 6, Dec 70, pp 1064-1069

C_{nh} , S_n , D_n , D_{nd} , D_{nh} with $n \geq 2$ remain constant in atom substitutions on the isolated axis of molecular symmetry α , coinciding with the principal axis α of the inertia tensor.

3. The partial derivatives $\frac{\partial I_{\alpha\alpha}}{\partial q}$ and constants $t_{\alpha\alpha}$ of molecules belonging to the point groups C_n , C_{nv} , C_{nh} , S_n , D_n , D_{nd} , D_{nh} with $n \geq 3$ and V_d remain constant in atom substitutions on the isolated axis of symmetry α , coinciding with the principal axis α of the inertia tensor.

2/2

USSR

UDC 539.194.01

ALEKSANDROV, A. P., ALIYEV, M. R., and ALEKSANYAN, V. T.

"Isotopic Relations Between Centrifugal Expansion Constants of Polyatomic Molecules"

Leningrad, Optika i Spektroskopiya, Vol 29, No 6, Dec 70, pp 1064-1069

Abstract: The article formulates a number of general relations between the centrifugal expansion constants of polyatomic molecules of the product rule and sum rule type. Relations are obtained for a number of particular cases which are important in practice. The following conclusions are stated:

1. Isotopic substitution of an atom in the center of gravity of a molecule leaves unchanged the values of all derivatives $\frac{dI_{\alpha\alpha}}{dq}$, $\frac{\partial I_{\alpha\alpha}}{\partial q}$ and the corresponding τ -constants.

2. The partial derivatives $\frac{\partial I_{\alpha\alpha}}{\partial q}$ and constants $\tau_{\alpha,\alpha,\alpha,\alpha}$ of molecules belonging to the point groups C_n , C_{nv} , $1/2$

USSR

PAPAYAN, G. L., et al., Biologicheskii Zhurnal Armenii, Vol 23, No 5, May 70, p 107

A broncho-spasmolytic effect is also observed. Administered in minimum doses to decerebrate cats with natural breathing occluded by opening of the chest, it reduces the bronchial spasm produced by intravenous introduction of proserine.

The results obtained in this study of preparation 2134 on the curarizing effect produced by curariform substances permit the conclusion that the preparation has a selective antagonistic effect with respect to depolarizing relaxants. The anticurarizing effect of the preparation is particularly pronounced when it is administered beforehand.

A similar property which is observed in compounds of the furan series should serve as a basis for directed synthesis of more effective anticurarizing preparations which counteract the effect of relaxants.

Pharmacology and Toxicology

USSR

UDC 615.785.3

PAPAYAN, G. L., ASRATYAN, S. N., and ALEKSANYAN, R. A., Institute of Fine Organic Chemistry, Academy of Sciences Armenian SSR

"The Effect of Preparation 2134 on the Curarizing Effect of Drugs with Depolarizing Action"

Yerevan, Biologicheskii Zhurnal Armenii, Vol 23, No 5, May 70, p 107

Transaltion: It has been established in studies with narcotized and decerebrate cats that the new preparation 2134 (from furan derivatives) exerts an anti-curarizing effect when administered in minimum quantities. The drug especially restores skeletal muscles, which are weakened by the effect of the usual doses of relaxants of the depolarizing type (ditiline, listenone, and decamethonium); it almost completely restores the depressed respiration produced by these relaxants.

Initial introduction of preparation 2134 in a dose of 0.5 mg/kg prevents relaxation and depression of respiration produced by twice the dose of the aforementioned depolarizing relaxants.

Preparation 2134 does not exert a significant influence on the curarizing effect of relaxants of a competitive type of action (paramyon and diplacin).

1/2

Pharmacology and Toxicology

UDC 541.69+547.554

USSR

MEDZHONYAN, A. L., (DECEASED), MARKARYAN, E. A., ALEKSANYAN, R. A., KHORENYAN, G. A., BALAYAN, R. S., and ARUSTAMYAN, ZH. S., Institute of Fine Organic Chemistry imeni A. L. Mndzhoyan, Academy of Sciences Armenian SSR, Yerevan

"Derivatives of Arylalkylamines. II. Constitution and Physiological Activity of Some Substituted Arylalkylamines and Their Derivatives"

Yerevan, Armyskiy Khimicheskiy Zhurnal, Vol 24, No 8, 1971, pp 703-713

Abstract: By condensing the chlorides of substituted phenylacetic, diphenylpropionic, and diphenylacetic acids with phenyl- and phenoxyisopropylamine, amides I were prepared. Reduction with LiAlH_4 converted compounds I into the substituted arylalkylamines II. By cyclizing the amides according to Bishler-Napieralski and then reducing, tetrahydroisoquinoline derivatives III were synthesized. By reacting phenylisopropylamine with indanones and reducing the ketimines that formed, aminoindans IV were obtained. Hydrochlorides of compounds II, III, and IV were effective as coronary dilatants (table). The formulas and properties of compound I and of the hydrochlorides of II and III are listed in tables.

1/1

USSR

MNATSAKANYAN, V. A., et al., Armyanskiy Khimicheskiy Zhurnal, Vol 25, No 1, 1972, pp 66-72

physical constants, such as n_D^{18} , $[\alpha]_D^{17}$, R_f for thin-layer chromatography, IR spectral data and others, are given for the compounds and their methiodides.

USSR

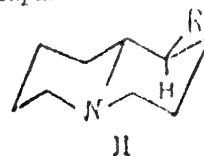
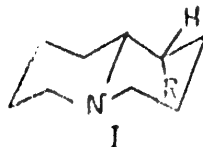
UDC 547.94+547.834.2

MNATSAKANYAN, V. A., ARUTYUNIAN, L. S., ALEKSANYAN, R. A., and KARASHYAN, E. S.,
Institute of Fine Organic Chemistry imeni A. L. Mndzhoyana, Academy of Sciences
SSR (Yerevan)

"Modification of Alkaloid Structures. V. Some Alcohols of the Lupinine and
Epilupinine Series"

Yerevan, Armyanskiy Khimicheskiy Zhurnal, Vol 25, No 1, 1972, pp 66-72

Abstract: A series of eight amino alcohols, homologs derived from the
(-) lupinine (structure I, $R = CH_2OH$) and its diastereomer (+) epilupinine
(structure II, $R_1 = CH_2OH$) were synthesized from (-) lupinine.



The influence of their methiodides on the ring circulation was studied. Both
forms were obtained for $R = R_1 = CH_2CH_2CH_2OH$, $CH_2O-(CH_2)_3OH$; only I was obtained
for $R = CH_2CH(CH_2OH)_2$; and only II was obtained for $R_1 = CH_2CH_2OH$. A number of
1/2

USSR

ALEKSANYAN, A. G., et al., Kvantovaya Elektronika, No 3, 1971, pp 15-22

per unit of time per unit of volume by extrinsic radiation or the electron beam, respectively, and to connect the value of Q with the extrinsic pumping. The article contains 5 figures and a bibliography of 25 entries.

2/2

USSR

UDC 621.373.5

ALEKSANYAN, A. G., POLUEKTOV, I. A., and POPOV, YU. M.

"The Influence of Impurity Concentration on the Threshold Characteristics of Semiconductor Lasers"

Moscow, Kvantovaya Elektronika, No 3, 1971, pp 15-22

Abstract: This article first summarizes previous research on the stated problem and then proceeds to examine the threshold characteristics of semiconductor lasers as a function of the degree of doping and temperature in the model of optical transitions from the parabolic conduction band to the impurity acceptor band with a Gaussian distribution of the state density. The authors have computed the amplification factor and the rate of spontaneous recombination; they also found the dependence of the threshold current, the Fermi quasi-levels, and the generation frequency of the semiconductor laser on the impurity concentration and temperature. Formulas and graphs are used to demonstrate their findings and show the influence of impurity concentration on threshold characteristics. The results obtained in this article may also be used to investigate the threshold characteristics of semiconductor lasers excited optically and electronically. It is necessary only to re-define the meaning of the term Q as the number of electron-hole pairs created

1/2

UDC 621.375.82

USSR

ALEKSANYAN, A. G., POLUEKTOV, I. A., POPOV, Yu. M.

"Light Amplification Coefficient in Highly Doped Semiconductors"

V sb. Kvant. elektronika (Quantum Electronics -- Collection of Works),
No. 2, Moscow, "Sov. radio", 1972, pp 77-83 (from RZh-Fizika, No 10,
Oct 72, Abstract No 10D987)

Translation: The light amplification coefficient was calculated for interzonal transitions in a semiconductor under conditions of high doping. Analytical expressions were obtained for the Fermi quasi levels of electrons and holes which are applicable over a wide range of temperatures and admixture concentrations. The qualitative features of the results are discussed. Examples of a calculation of laser threshold characteristics for this type of optical transition are given. 12 ref. Authors abstract.

USSR

UDC: 621.378.35+535.345.1

ALEKSANYAN, A. G., POLSEKTOV, I. A., POPOV, Yu. M.

"Light Amplification Factor in Heavily Doped Semiconductors"

Moscow, Evantovaya Elektronika, Sbornik Statey, No. 2(8), 1977,
pp 77-83

Abstract: The coefficient of light amplification is computed for transitions between bands in a semiconductor under conditions of heavy dopant injection. Analytical expressions are found for the Fermi quasi-levels of electrons and holes, applicable over a wide range of temperatures and dopant concentrations. The qualitative particulars of the results are discussed. Examples are given of calculation of the laser threshold characteristic for the given type of optical transitions. The authors thank P. V. Yelitsyev for constructive criticism. The literature, bibliography of twelve titles.

USSR

UDC 621.373.421.1(088.8)

ARTYM, A. D., ALEKSANYAN, A. A., SIVERS, M. A., Leningrad Polytechnical Institute
imeni Kalinin

"A Generator of Harmonic Oscillations"

USSR Author's Certificate No 258393, Filed 26 Feb 68, Published 14 Apr 70 (From
RZh-Radiotekhnika, No 10, Oct 70, Abstract No 10D375)

Translation: This Author's Certificate introduces a generator of harmonic oscillations with AM dephasing. The oscillator is based on controlled diodes and contains a DC voltage supply source, charging and discharging chokes, commutators, a resonance tank system, and a source of controlling voltage (phase or time modulator). To extend the modulation range while simultaneously assuring high linearity of the modulation characteristic, the charge-discharge chokes are equipped with auxiliary recuperation windings, each of which is connected through an isolating diode to the supply source of the oscillator. V. P.

1/1

USSR

UDC (539.551+531.424):(546.24+546.683-143)

ANDRIANOVA, T. N., ALEKSANDROZ, A. A., OKHOMIN, V. S., RAZUMEYCHENKO, L. A.,
PANINA, Z. I.

"Viscosity and Density of Melts in the Thallium-Tellurium System"

Teplofizika Vysokikh Temperatur, Vol 9, No 5, 1971, pp 934-937.

Abstract: Results are presented from studies of the viscosity and density of melts in the thallium-tellurium system in the concentration interval from 32 at.% Te to 100% Te and in the temperature interval from the melting point to 1,300°K. Analysis of the isotherms of the properties studied shows the existence in the liquid phase of the stable compound Tl_2Te , which does not dissociate over a broad temperature range. An analysis is presented of structural changes in melts of the concentrations studied.

2/2 009

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AT0137716

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE REDN. OF THE LOWER TI
CHLORIDES PROCEEDS IN SEVERAL STAGES. TICL SUB3 PLUS 3NA EQUALS TI PLUS
3 NACL; TICL SUB3 PLUS NA EQUALS TICL SUB2 PLUS NACL; TICL SUB2 PLUS 2NA
EQUALS TI PLUS 2NACL. THIS REDN. CAN BE CONSIDERED THE RESULTS OF A
CLOSED CIRCUIT ELEC. CELL IN WHICH CURRENT IS GENERATED BY THE REACTION
2NA SUB2 PRIME POSITIVE PLUS TI PRIME2 POSITIVE YIELDS 4NA PRIME
POSITIVE PLUS TI.

UNCLASSIFIED

1/2 009 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--MECHANISM OF THE REDUCTION OF LOWER CHLORIDES OF TITANIUM WITH
SODIUM -U-
AUTHOR--ALEKSANDROVSKIY, S.V. A
COUNTRY OF INFO--USSR
SOURCE--IZV. VYSSH. UCHEB. ZAVED., TSVET. MET. 1970, 13(1), 48-52
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--SODIUM CHLORIDE, CHEMICAL REDUCTION, TITANIUM CHLORIDE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3008/0631 STEP NO--UR/0149/70/013/001/0048/0052
CIRC ACCESSION NO--AT0137716
UNCLASSIFIED

USSR

UDC 669.721.725.018.9

TAYTS, A. Yu., ALEKSANDROVSKIY, S. V., ABROSIMOVA, Ye. N., PETROVA, F. A.,
KHABAROVA, N. P.

"Study of the Process of Production of Magnesium Alloy, Alloyed With Beryllium"

Tr. Vses. N-i. i Projektn. In-ta. Alyumin., Magn. i Elektrodn. Prom-sti [Works of All-Union Scientific Research and Planning Institute of the Aluminum, Magnesium and Electrode Industry], 1970, No. 72, pp. 144-149. (Translated from Referativnyy Zhurnal Metallurgiya, No. 5, 1971, Abstract No. 5 G201 by the authors).

Translation: A technology is described for production of a casting alloy in the Mg-Al-Zn-Mn system (type Mg55) with Be added. Due to the addition of Be, the oxidation of the alloy during melting and pouring is sharply reduced, allowing a decrease in the consumption of S and flux, and the losses of alloy with the bottom sediment are also decreased. Due to the poor solubility of Be in Mg, a 2 or 3 times excess quantity must be introduced to the charge. The influence of slight ($5 \cdot 10^{-4}$ - $15 \cdot 10^{-4}\%$) additions of Be on the structure, and mechanical and corrosion properties of the alloys is studied. The introduction of up to 0.008% Be to the Mg alloy does not result in significant enlargement of the grain, the mechanical properties are not reduced, and the corrosion properties are even increased. The production of Mg alloy with addition of Be has been undertaken on the commercial scale. 3 figs; 1 table; 5 biblio refs.

1/1

USSR

UDC 669.721.042.6

ALEKSANDROVSKIY, S. V., VLASOV, V. A., LIBERMAN, M. D., POSKANENKOV, V. V.

"Experience in Production of Castings of Magnesium Alloys by Casting Under Pressure for Various Machine-Building Products"

Tr. Vses. N-i. i Proyechn. In-ta. Alyumin., Magn. i Elektrodn. Prom-sti [Works of All-Union Scientific Research and Planning Institute of the Aluminum, Magnesium and Electrode Industry], 1970, No. 72, pp. 155-162. (Translated from Referativnyy Zhurnal Metallurgiya, No. 5, 1971, Abstract No. 5 G194 by the authors).

Translated: A description is presented of the manufacture of various products (hand and portable tools, motorcycles, motor vehicles) with Mg alloy parts. The parts were produced by casting under pressure. The results of testing have shown the possibility of industrial application of Mg alloys in place of aluminum alloys. 5 figs, 1 table.

1/1

Explosives and Explosions

USSR

UDC 541.427.6

MERZHANOV, A. G., ZELIKMAN, Ye. G., and ALEKSANDROVSKAYA, Ye. D.

"Theory of Degeneration of Thermal Explosion"

Moscow, Zhurnal Fizicheskoy Khimii, Vol 45, No 2, Feb 71, pp 379-382

Abstract: Experimental data are reported in support of the sequence proposed by the authors for the degeneration of thermal explosion. The kinetics and thermal explosion were studied of two model reactions of tetryl; an auto-catalytic reaction and a first-order reaction. Degeneration characteristics were determined from the experimental data for the reactions tetryl-picric acid and tetryl-limestone. Experimentally obtained values agreed well with the theoretically calculated ones.

2/2 024

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AT0132496

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. KINETIC STUDIES REVEALED THAT ONE OF THE LIGANDS FROM THE $\text{Co}(\text{ALCL SUB4})\text{SUB2}$ COMPLEX WERE READILY SUBSTITUTED BY ALCL SUB3 THIOPHENE (I) TO GIVE A CATALYST CAPABLE OF INITIATING CIS 1,4 POLYMER. OF BUTADIENE. THE MOL. WT. OF POLYBUTADIENE INCREASED WHENEVER THE CONCN. OF $\text{CoCL SUB2 ALCL SUB3 I}$ WAS INCREASED, PRESUMABLY DUE TO HIGHER CONCN. OF THE CATALYST AND OF ALCL SUB3 I , WHICH WAS ALWAYS FORMED ALONG WITH THE CATALYST. FACILITY: MOSK. INST TEKHNI KHIM. TEKHNOL. IM. LOMONOSOVA, MOSCOW, USSR.

UNCLASSIFIED

1/2 024 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--NATURE OF ACTIVE CENTERS DURING BUTADIENE POLYMERIZATION ON COBALT
CATALYSTS -U-
AUTHOR-(104)-BYRIKHIN, V.S., FEDOROV, N.P., ALEKSANDROVSKAYA, O.I.,
MEDVEDEV, S.S.
COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 191(30, 589-92

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--BUTADIENE, POLYMERIZATION, COBALT COMPLEX, CATALYST, ALUMINUM
COMPOUND, THIOPHENE, POLYBUTADIENE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3005/0224

STEP NO--UR/0020/70/191/003/0589/0592

CIRC ACCESSION NO--AT0132496

UNCLASSIFIED

USSR

ALIMKHANOVSKAYA, E.K., Gidrotekhnicheskoye Stroitel'stvo, No 4, April, 1971,
pp 19-24

Graphs of temperatures and stresses for the period between 1962 and 1969 are presented. Until 1967 when filling the fore bay with water began the fluctuations of stress were seasonal following the fluctuations of temperature.

No tension stresses were detected on the upstream face of the dam after the fore bay has been filled with water.

The measured stresses agreed closely with the calculated ones provided that thermal stresses and stresses due to moisture in the concrete were taken into account.

USSR UDC: 620.173.21.627.81:621.311.21(282.251.2).001.42

ALEKSANDROVSKAYA, E. K., Engineer

"Stresses in Krasnoyarskaya GES Dam During Construction and Initial Operation"

Moscow, Gidrotekhnicheskoye Stroitel'stvo, No. 4, April, 1971, pp 19-24

Abstract: Field measurements of actual stresses in a concrete dam check the validity of design calculations. 600 strain gages have been embedded in the concrete of the subject dam for this purpose.

High thermal stresses occurred in the beginning of the construction due to high differences of temperatures between the center and the face of a block caused by non-uniform cooling. Later, since the end of 1963, this difficulty was overcome mainly by cooling the newly poured concrete by water circulating through pipes.

ALEKSANDRAOVSKAYA, E. K., et al., V sb Nuachn. issled. poridrotekhn. v 1969 g.
- T. 1, Leningrad, Energiya Press, 1970, pp 135-136

elastic insert receives no hydrostatic pressure.

USSR

UDC 621.311.21.001.42

ALEKSANDROVSKAYA, E. K., GUSEV, YU. N.

"Natural Studies of Stresses and Strains in the Water Conduit, the Spiral Chamber and the Ship Elevator of the Krasnoyarsk Hydroengineering Complex"

V sb. Nauchn. issled. po gidrotekhn. v. 1969 g. T. 1 (Scientific Research in Hydroengineering in 1969. Vol 1 -- collection of works), Leningrad, Energiya Press, 1970, pp 135-136 (from RZh-Elektrotekhnika i Energetika, No 4, Apr 71, Abstract No 4 D132)

Translation: The purpose of this experiment was to determine the actual stresses and strains in the metal and concrete of the indicated structures and to compare the measured values with the calculated ones to check correspondence of the calculation techniques used and the prerequisites for actual operation of the structural elements. The experimental results demonstrated the following: the measured stresses are significantly lower than the calculated stresses (the metal and reinforced concrete shells were each calculated for the total hydrostatic pressure individually). Especially large safety margins were obtained in the sections of conduits which pass through the massive concrete. The stresses increase only at points where cracks have obviously formed in the prefabricated concrete shell; the reinforcing of the spiral chamber located above the

1/1

2/2 020 UNCLASSIFIED PROCESSING DATE--23OCT70
CIRC ACCESSION NO--AP0113572
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. METHODS ARE DESCRIBED FOR DETN.
NOT ONLY OF FORM AND SIZE OF CLAY PARTICLES IN K DEPOSITS BY ELECTRON
MICROSCOPY BUT ALSO FOR THE OBSERVATION OF THE EFFECT OF ADMIXTS. OF
NACL AND KCL OR OF THE FLOTATION AGENTS CM CELLULOSE AND OCTADECYLAMINE
ON FLOCCULATION AND OF NA SUB4 P SUB2 O SUB7 ON THE PEPTIZATION OF THE
CLAY PARTICLES AND THE CONDITION OF THE DISPERSIONS. THE CLAYS
PARTICLES WERE SPED. FROM KCL BY TREATMENT WITH BOILING H SUB2 O AND
FROM CARBONATES BY N HCL. FACILITY: INST. OBSHCH. NEORG. KHIM.,
MINSK, USSR.

UNCLASSIFIED

1/2 020 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--ELECTRON MICROSCOPIC STUDY OF CLAYS FROM THE STAROBINSK POTASH
DEPOSIT -U-
AUTHOR-(03)-ALEKSANDROVICH, KH.M., MAKATUN, V.N., PECHKOVSKIY, V.V.
COUNTRY OF INFO--USSR *A*
SOURCE--VESTSI AKAD. NAVUK BELARUS. SSR, SER. KHIM. NAVUK 1970, (1), 43-9
DATE PUBLISHED-----70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY

TOPIC TAGS--ELECTRON MICROSCOPY, FLOTATION REAGENT, POTASSIUM COMPOUND,
SODIUM CHLORIDE, CELLULOSE, PEPTIDE, AMINE DERIVATIVE/(U)CM CELLULOSE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1993/0708 STEP NO--UR/0419/70/000/001/0043/0049
CIRC ACCESSION NO--AP0113572
UNCLASSIFIED

Ecology

USSR

UDC: 601.74:94.05

ALEKSANDROVA, V.B.

"Modeling in Plant Ecology"

Leningrad, Botanicheskii Zhurnal, Vol 55, No 3, 1970, pp 442-450

Abstract: This is a very broad review of works on ecology, of the theory, and the methods or systems used in the study of plants. The theory, of course, need not depict all characteristics of the organism, but it should clearly illustrate those, and only those, characteristics which are the subject of study. It should contain that constant from which the organism can be studied, and the whole should be illustrated graphically in accordance with scientific methodology. Multiplicity of models is necessary to study the multiplicity of biologic and ecological factors, and they must be capable of showing the functional interrelationship with the various elements studied by various models. Real models can be vegetation maps or specially designed experimental installations. But the most promising models in plant ecology are mathematical models, geometric models, punched card representations of plant communities, etc. Mathematical modeling with computers will probably be the most efficient research method for ecologists.

USSR

ALEKSANDROVA, V. D., Botanicheskiy Zhurnal, Vol 56, No 9,
Sep 71, pp 1225-1238

E. Odum's construct (1959, 1966) for energy flow through an ecosystem is criticized since he neglected the role of the soil as a special energy accumulator and a rich nitrogen reserve.

According to the data of V. R. Volobuyev (1964) and V. A. Kovda (1970), the "humus shell" or pedosphere is a source of enormous latent energy. Volobuyev's data on soil component energy reserves show chernozem energy reserves to be ten times greater than the energy contained in steppe vegetation. According to Kovda, in some grassland biogeocoenoses the quantity of energy concentrated in humus is 20 to 30 times greater than the energy store of the biomass, while the mean order of energy reserves in the biomass and in the "humus shell" is approximately the same: 1.5×10^{19} kilocalories in the biomass and 1.2×10^{19} kilocalories in the "humus shell." Thus in response to Odum's construct, a biogeocoenosis diagram is proposed wherein the soil is represented as a specialized energy reservoir.

3/3

USSR

ALEKSANDROVA, V. D., Botanicheskiy Zhurnal, Vol 56, No 9,
Sep 71, pp 1225-1238

combined into larger scale chorologic units, similar in composition to geovegetative systems or to drainage basin systems. Within these types of boundaries mixed biogeocoenoses are linked by matter and energy flow patterns.

Biogeochore is a term used to designate any chorologic unit in the biogeocoenotic shell: from the elementary biogeochore, or biogeocoenosis, to the largest biogeochore, the whole biogeocoenotic shell of the earth.

An ecosystem is an aggregate of living creatures, linked together by trophic ties, plus the inanimate components of their environment, drawn by them into reciprocal processes for exchange of energy and matter. This Russian concept of the term ecosystem was adopted from the writings of Tansley (1935) and Lindeman (1942).

2/3